National Library of Canada
Bibliothèque nationale du Canada

Canadian Theses Service
Service des thèses canadiennes

Ottawa, Canada
K1A 0N4

NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Previously copyrighted materials (journal articles, published tests, etc.) are not filmed.

Reproduction in full or in part of this microform is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

Les documents qui font déjà l'objet d'un droit d'auteur (articles de revue, tests publiés, etc.) ne sont pas microfilmés.

La reproduction, même partielle, de cette microforme est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30.

NL-339 (r. 88/04)

Canada

THE UNIVERSITY OF ALBERTA

THE CHOICE OF SITE FOR CHILDBIRTH AS RELATED TO SELECTED ISSUES OF CONTROL

BY

MARGARET G. BASSINGTHWAITE-THIESSEN

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE

DEGREE OF MASTER OF NURSING

FACULTY OF NURSING

EDMONTON, ALBERTA

SPRING 1988

Permission has been granted to the National Library of Canada to microfilm this thesis and to lend or sell copies of the film.

The author (copyright owner) has reserved other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without his/her written permission.

L'autorisation a été accordée à la Bibliothèque nationale du Canada de microfilmer cette thèse et de prêter ou de vendre des exemplaires du film.

L'auteur (titulaire du droit d'auteur) se réserve les autres droits de publication; ni la thèse ni de longs extraits de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation écrite.

ISBN 0-315-42698-5

VANDERBILT UNIVERSITY

NASHVILLE, TENNESSEE 37240 TELEPHONE (615) 322-7311

Health Care Research Project • School of Nursing • Direct phone 322-2520

August 18, 1986

To Whom It May Concern:

Ms. M. Thiessen has had my permission to use the Multidimensional Health Locus of Control (MHLC) Scales in her master's thesis research. She also has my permission to reproduce these scales as necessary, including in the appendix of her thesis, "The Choice of Site for Childbirth As Related to Selected Issues of Control."

Kenneth A. Wallston

Kenneth A. Wallston, Ph.D.
Professor

JUDITH T. FULLERTON, Ph.D., CNM

7717 Canyon Point Lane
San Diego, CA 92126

Consultant

Nurse-Midwifery • Health Administration • Testing & Research

August 15, 1986

Ms.Marg Thiessen, R.N., B.Sc.N., S.C.M.

Nursing Consultant-Practice
Alberta Association of Registered Nurses
10256-112 Street
EDMONTON, Alberta
T5K 1M6
CANADA

Dear Ms. Thiessen,

I am pleased to grant you full and unrestricted permission to use the "Attitude Towards Issues of Choice in Childbirth Scale" in any application of research.

I wish you every success in your studies, and would be pleased to receive the summary of your findings.

Sincerely,

Judith T. Fullerton, Ph.D., CNM
Assistant Dean for Joint Programs at UCSD
UCSF School of Nursing
Associate Clinical Professor
UCSD School of Medicine

THE UNIVERSITY OF ALBERTA

RELEASE FORM

NAME OF AUTHOR: MARGARET G. BASSINGTHWAITE-THIESSEN

TITLE OF THESIS: THE CHOICE OF SITE FOR CHILDBIRTH AS RELATED TO SELECTED ISSUES OF CONTROL

DEGREE FOR WHICH THESIS WAS PRESENTED: MASTER OF NURSING

YEAR THIS DEGREE GRANTED: 1988

Permission is hereby granted to THE UNIVERSITY OF ALBERTA LIBRARY to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

Signed: M.G. Bassingthwaite-Thiessen

PERMANENT ADDRESS:

5207 - 39A Avenue

Edmonton, Alberta

T6L 2E3

Dated: February 10, 1988

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled THE CHOICE OF SITE FOR CHILDBIRTH AS RELATED TO SELECTED ISSUES OF CONTROL

submitted by MARGARET G. BASSINGTHWAITE-THIESSEN

in partial fulfilment of the requirements for the degree of MASTER OF NURSING.

Peggy Anne Field
(Supervisor)

Phyllis Giamondello

Kyung Bae

Date: February 10, 1988

DEDICATION

To my husband, Hal, in appreciation of his love, encouragement and limitless support;
to my parents, Margaret and Bert Bassingthwaite, for nurturing my curiosity and for their interest in all my endeavours;
to Dr. Peggy Anne Field, for her lifelong commitment to the advancement of maternal-infant nursing, and for her generous patience, encouragement, guidance and support; and,
to all the mothers who participated in this study, so that I might pursue another venture.

ABSTRACT

Historically, childbirth has been a significant family event. Although new knowledge and technology have contributed to making childbirth a relatively safe experience, many informed and responsible families appear to have become disillusioned with maternity services provided through the organized healthcare system. Although there is no legitimate alternative to a hospital site for childbirth, Alberta statistics show an increased number of births out of hospital, and little research has been conducted to investigate this specific phenomenon in Canada.

The purpose of this study was to examine the health locus of control of women who chose a Hospital site for childbirth and those who chose an Alternate site for childbirth to determine whether or not there are differences between the groups. A modified replication of Fullerton's (1981) study was conducted.

An ex post facto correlational design was used for this study. A convenience sample of two equalized groups of thirty pre-natal women were selected from an urban, western Canadian, multi-ethnic community. The Hospital Group was selected through the practices of three obstetricians, and the Alternate Group through the practice of one nurse-midwife. Data collection was accomplished by administration of the Multidimensional Health Locus of Control (MHLC) and the Attitude Toward Issues of Choice in Childbirth (ATICC) Scales in the form of questionnaires. The ATICC Scale was used as a total scale due to its failure to discriminate between Intrapersonal and Extrapersonal control. Group differences were compared on the variables Internal,

Chance and Powerful Others Health Locus of Control, and Attitude, and measured by multivariate statistics.

Study groups were comparable on all biographical characteristics except income. Internal Health Locus of Control and Attitude were the most discriminating variables between groups. The Alternate Group was more internally oriented and held stronger attitudes about issues of choice in childbirth than the Hospital Group. Specific issues in childbirth related to control could not be determined. Results must be treated with caution due to the small sample, study design, and limitations of the research instruments.

PREFACE

All men are said to be free because they are endowed by nature with the power of free choice---the power to decide for themselves what they shall do or become.

Mortimer J. Adler

ACKNOWLEDGEMENTS

The co-operation of many individuals, and support of family, friends and colleagues is acknowledged with sincere appreciation, for without them, this study could not have taken place. This writer also wishes to acknowledge all the women for their voluntary participation, thereby making this study possible.

Throughout the study, the assistance and constructive criticism of Dr. Peggy Anne Field, thesis advisor, Dr. Phyllis Giovannetti and Dr. Kyung Bay, members of her thesis committee, is gratefully acknowledged.

Appreciation is extended to Dr. David Reid, Dr. James Barr, Dr. Keith Pearse and The Midwifery Group, Edmonton, Alberta, for their interest and in providing the writer access to participants for the study.

The assistance of Mr. Cliff Kinzel, M.S.W., Mr. Chuck Humphrey, M.A., and Dr. Wayne Watson, Consultants, Computing Services, Department of Sociology, University of Alberta, with coding and programming of data, and Denise Jacobs for data key punching, is acknowledged with appreciation.

The writer wishes to express her appreciation to Yvonne Chapman, Executive Director, Alberta Association of Registered Nurses, for granting leave to pursue graduate studies, and to her and the staff of the Alberta Association of Registered Nurses for their continued interest and encouragement throughout the study.

TABLE OF CONTENTS

CHAPTER		PAGE
I.	INTRODUCTION	1
	Statement of the Problem	1
	Purpose of the Study	2
	Definitions	3
	Operational Definitions	4
	Hypotheses	4
	Delimitations	5
	Theoretical Framework	5
	Definition of Terms Used Within the Framework	5
II.	REVIEW OF THE LITERATURE	10
	Locus of Control and Health Behavior	12
	Health Locus of Control and Health Behavior	13
	Multidimensional Health Locus of Control and Health Behavior	14
	Locus of Control and Maternal Behavior	15
	Conceptual Literature	15
	Control and Satisfaction	16
	Childbirth Education	18
	Health Value and Attitudes	20
	Data-Based Literature	20
	Locus of Control, Childbirth Educational Preparation and Satisfaction	20
	Locus of Control and Pain in Childbirth	22
	Locus of Control During Labor-New Instruments	23

CHAPTER PAGE

Childbirth Evaluation and Control..... 25

Childbirth Education, Locus of Control, and Satisfaction..... 25

Locus of Control, Psychoprophylaxis and Choice..... 27

Summary..... 32

III. METHOD..... 35

Research Design..... 35

Sample..... 36

Instruments..... 36

Multidimensional Health Locus of Control Scale (MHLC)..... 37

Attitude Toward Issues of Choice in Childbirth Scale (ATICC)..... 38

Ethical Considerations..... 38

Procedure..... 39

Analysis of Data..... 41

IV. RESULTS..... 42

Description of Samples..... 42

Biographical Characteristics..... 44

Other Biographical Characteristics..... 46

Reliability and Scoring of Instruments..... 48

Multidimensional Health Locus of Control Scale (MHLC)..... 48

Attitude Toward Issues of Choice in Childbirth Scale (ATICC)..... 49

Results from the Administration of the MHLC and ATICC Instruments to Hospital and Alternate Birthsite Chooser Groups..... 50

CHAPTER PAGE

Conclusion..... 52

Hypothesis 1. 53

Hypothesis 2. 53

Hypothesis 3. 53

V. CONCLUSIÓNS, LIMITATIONS, RECOMMENDATIONS AND IMPLICATIONS FOR NURSING..... 55

Discussion of the Findings..... 56

Sample Description..... 56

Biographical Characteristics..... 56

Other Biographical Characteristics..... 58

Reliability and Validity of the Research Instruments..... 60

Multidimensional Health Locus of Control Scale (MHLC)..... 60

Attitude Toward Issues of Choice in Childbirth Scale (ATICC)..... 60

Comparison of Hospital and Alternate Birthsite Chooser Groups..... 65

Null Hypothesis (Ho)..... 65

Hypothesis 1. 66

Hypothesis 2. 66

Hypothesis 3. 67

Conclusions Related to the Hypotheses..... 68

Null Hypothesis (Ho)..... 68

Hypothesis 1. 68

Hypothesis 2. 68

Hypothesis 3. 69

CHAPTER PAGE

Additional Conclusions..... 69

Limitations..... 71

Recommendations..... 72

Implications for Nursing..... 73

REFERENCES..... 75

APPENDICES..... 88

APPENDIX A. Multidimensional Health Locus of Control Scale (Forms A & B)..... 88

APPENDIX B. Multidimensional Health Locus of Control Scoring Scale..... 91

APPENDIX C. Multidimensional Health Locus of Control Questionnaire (Form A)..... 92

APPENDIX D. Attitude Toward Issues of Choice in Childbirth Scale..... 95

APPENDIX E. Attitude Toward Issues of Choice in Childbirth Scoring Scale..... 96

APPENDIX F. Attitude Toward Issues of Choice in Childbirth Questionnaire..... 97

APPENDIX G. Antepartum Risk Scoring Form (Alberta)..... 100

APPENDIX H. Informed Consent..... 101

APPENDIX I. Letter of Introduction to Parent..... 103

APPENDIX J. Data Sheet..... 104

LIST OF TABLES IN APPENDICES

APPENDIX K

TABLE		PAGE
K-1.	Biographic Characteristics of Hospital and Alternate Groups	105
K-2.	Biographic Characteristics of Hospital and Alternate Groups	106
K-3.	Mean Differences of Groups-Pregnancies and Living Children	107
K-4.	Birthsite Selected for Previous Childbirth	108
K-5.	Descriptive Data on Scales:Alpha Reliability Coefficients	109
K-6.	Pearson Product-Moment Correlation Matrix:Five Variables	110
K-7.	Correlation Matrix:Four Variables	111
K-8.	Mean Scores of Hospital and Alternate Groups on All Variables	112
K-9.	Comparison of Two Groups on t-test	113
K-10.	Group Differences on HLC and Attitude Measured by Independent t-test	114
K-11.	Comparison of Two Groups on Four Variables Using Hotelling's T^2 Test	115
K-12.	Classification Results of Grouped Cases	116

LIST OF TABLES

TABLE		PAGE
4.1	Frequency of Parity of Subjects Studied	44
4.2	Canonical Discriminant Function	52

LIST OF FIGURES

FIGURE PAGE

1. Plot of Attitude with Health Locus of Control by Group..... 117

2. All-Groups Stacked Histogram Canonical Discriminant Function 1..... 118

CHAPTER I

Introduction

Historically, childbirth has always been a significant family event. As a result of new knowledge and technology, hospital childbirth has become a relatively safe experience. During the last decade, without the threat to lives of both mothers and infants in childbirth, there has been a continuous trend for families to desire more personal control and participation in their childbirth experiences (CNA, 1984; Naisbitt, 1984; Rising, 1975).

Studies and reports of families who experience childbirth outside the organized healthcare system have shown that they are well informed and make responsible choices (Elkins, 1983; Kitzinger & Davis, 1978; Stewart & Stewart, 1977). This suggests that current legitimate maternity services may be incongruent with some women's expectations for satisfactory outcomes of their childbirth experience.

Statement of the Problem

It appears that some families have become disillusioned with maternity services provided through the organized health care system and many are opting for alternatives outside the health care system (AMA, 1987). Statistics indicate an increase of out-of-hospital births from 2.15/1000 live births to 4.01/1000 live births in Alberta between 1980 and 1986 (AMA, 1987), showing an increased interest in alternate services despite the absence of a legitimate alternative to a hospital site.

In Alberta, women who seek an Alternate site for childbirth cannot legitimately be attended by physicians. Their care is thus provided by non-regulated attendants, who may be midwives prepared in other countries or untrained lay-midwives. Women may therefore be deprived of the recognized standard of health care provided by qualified professionals to which all Canadians are entitled (Hall, 1980).

One potential factor influencing this choice may be women's health locus of control orientation. If factors in hospital inhibit control, it may be that the women who have become disenchanted with the healthcare system are in fact those with a high internal health locus of control. Identifying differences between women in relation to their health locus of control orientation could assist nurses to more ably predict maternal behaviors. This could, in turn, provide a basis for the selection and use of nursing interventions that are consistent with women's expectations of care during their childbirth experience. It is then reasonable to expect that some dissatisfaction with the childbirth experience within a hospital site could be minimized.

Purpose of the Study

The purpose of this study was to examine the health locus of control of women who chose a Hospital site for childbirth and those who chose an Alternate site to determine whether or not there are differences between the groups. A modified replication of Fullerton's (1981) ex post facto, correlational study was conducted.

The following research questions were asked to guide this study.

1. Do women with an internal health locus of control orientation differ from women with an external health locus of control orientation in their choice of site for childbirth?
2. Do women differ in their attitudes toward selected issues related to choice in childbirth depending on site of delivery?

Definitions

Attitudes are "...perceptions about persons, things or events in one's environment, and have motivational qualities insofar as they direct one's behavior. They determine the way in which one views and responds to one's world" (Hollander, 1971, p.18).

Locus of Control is a construct based on the degree to which an individual believes that reinforcements are contingent upon his own behavior. This allocation of responsibility for an outcome affects the strength of the generalized expectancy of reinforcement with a greater degree of expectancy occurring when a reinforcement is seen as contingent upon one's own behavior (Rotter, 1966, p.1).

Internal Locus of Control is the "...perception of positive or negative events being a consequence of one's own actions and thereby under personal control" (Rotter, Seeman & Liverant, 1962, p.499).

External Locus of Control is the "...perception of positive or negative events being unrelated to one's own behaviors in certain situations and therefore beyond personal control" (Rotter, Seeman & Liverant, 1962, p.499).

Parity is the number of pregnancies carried to 24-40+ weeks gestation, resulting in either a live or stillbirth.

Hospital site is the traditional hospital environment comprised of labor, delivery and post-partum units in acute care facilities within the recognized healthcare system.

Alternate site is a private home environment where childbirth may occur, and includes services that are not recognized as part of the healthcare system.

Operational Definitions

Health Locus of Control is one's health locus of control as it directly relates to health behaviors and is the score obtained when measured by Wallston, Wallston and DeVellis' (1978c) Multidimensional Health Locus of Control Scale (Appendix A).

Attitude Toward Issues of Choice in Childbirth is the score obtained when measured by Fullerton's (1981) Attitude Toward Issues of Choice in Childbirth Scale (Appendix D).

Hypotheses

The following hypotheses were tested.

1. Women choosing an Alternate site for childbirth have a more internal health locus of control orientation than those who choose a Hospital site.
2. Women choosing an Alternate site for childbirth have more positive attitudes toward issues of choice in childbirth than those who choose a Hospital site.

3. Health locus of control orientation is related to attitudes toward issues of choice in childbirth.

Delimitations

The following are delimitations of this study.

1. The sample was small and selected on a convenience basis due to the availability of Alternate birthsite choosers.
2. Voluntary participation and selection of a Hospital Group comprised of women delivering at a major teaching hospital may not reflect the population as a whole.

Theoretical Framework

The concept of locus of control is derived from Social Learning Theory (Rotter, 1954). The basis of Social Learning Theory (SLT) is that human behavior is determined by many complex variables. Its major feature is that one's behavior or response to one's environment and explanation of behavioral differences are situationally determined (Rotter, 1966; Rotter, Chance & Phares, 1972).

Components of SLT used to predict behavior are the psychological situation, behavioral potential, expectancy, and reinforcement value. These components include ways in which the generality of the behavior and the processes governing choice behaviors may be described (Rotter, Chance & Phares, 1972, pp.11-43).

Definition of Terms Used Within the Framework

Psychological situation is "...that where individuals react continuously, selectively and simultaneously to internal and external

kinds of stimulation. Behavior is consistent with one's experiences because various aspects of one's environment mutually affect each other" (Rotter, Chance & Phares, 1972, p.13).

Behavioral potential is the "potential for a behavior to occur in any specific psychological situation and is a function of the expectancy that the behavior will lead to a particular reinforcement in that situation and to the value of that reinforcement" (Rotter, 1975, p.57).

Expectancy is the "...probability held by the individual that a particular reinforcement will occur as a function of a specific behavior on his part in a specific situation, and is systematically independent of the value or importance of the reinforcements" (Rotter, Chance & Phares, 1972, p.12).

Rotter (1975) states "...the potential for a behavior to occur in any specific psychological situation is a function of the expectancy that the behavior will lead to a particular reinforcement in that situation and the value of that reinforcement" (p.57). A generalized attitude, belief, or expectancy regarding the nature of the causal relationship between one's own behavior and its consequences might affect a variety of behavioral choices in a broad band of life situations (Rotter, 1966, p.2). Since expectancy of outcomes reflects past learning experiences in similar situations, subjective value of reinforcement and expectation will determine the choice situation that confronts one. Rotter (1954) notes that "... reinforcement properties of expectancy are related to the persistence of certain expectancies

held by an individual and are powerful influences in learning and choice behavior" (p.20). The strength of a need will be determined by the relationship between an expectancy and the value of a related expectancy (Rotter, Chance & Phares, 1972, p.17).

Generalized expectancies are "...those developed across situations which differ in needs satisfied or reinforcement expected, but which are similar to perception of control that we can exercise to change or maintain these situations" (Rotter, Chance & Phares, 1972, p.39). Prediction of behavior can be made on the basis of one's values, expectations, and the situations in which one finds oneself, but only when identification can be made as to how one perceives and attaches meaning to a particular situation.

Self-concept, attitudes, values, past experiences and expectancies are inherent in personality and are determined by social interaction which is vital for social adjustment (Hollander, 1971). Personality can thus be described in terms of one's perception of self and others. Since the effects of reinforcing conditions infer a directional aspect of behavior, human behavior is motivated and personality constructs which describe behavior are goal-directed. Choice behavior and selective responses can then be accounted for by motivating forces inherent in SLT.

Locus of Control is a feature of personality derived from SLT and is comprised of cognitive and behavioral components. Its purpose is to predict complex human social behavior and thereby determine processes by which individuals react differently to similar stimuli,

"...getting at the psychological components of the individual's responses to his environment" (Mischel, 1971, pp. 404-405).

Within the Locus of Control (LOC) construct, behavioral characteristics are assigned to internally versus externally controlled individuals. Characteristics differentiating internals from externals indicate that internals are more likely to attend to aspects of the environment which may be useful for future behavior, take steps to enhance environmental conditions in which they find themselves, place greater value on achievement reinforcements, are more concerned with their abilities, and are able to withstand subtle attempts to be influenced.

Rotter (1966) purports that perceived control is the degree to which individuals believe they are personally responsible for themselves and to which they believe they have self control. It is the belief that one is able to 'do something' and is positively associated with access to opportunity (Lefcourt, 1982, p.3). Personal control can then be viewed as "...one's perception of the opportunity to make choices, belief in ability to influence some aspect of his own environment, and as having a relationship to his psychological well-being" (Pohl & Fuller, 1980, p.148).

Because of the behavioral characteristics which differentiate internally from externally oriented individuals, it is reasonable to propose that individuals choosing an Alternate site for childbirth would more likely have an internal LOC orientation than those choosing a Hospital site for childbirth. More specifically, women choosing an Alternate site for childbirth could be viewed as valuing and holding

beliefs about their abilities to actualize and maintain control of their environments and not be influenced by others.

An overview of the study has been presented in Chapter I. The following chapter constitutes a review of relevant literature. The method, data analysis, results, conclusions, limitations, recommendations, and implications for nursing are addressed in Chapters III, IV, and V.

CHAPTER II

Review of the Literature

The purpose of this chapter was to examine the research in general on the personality construct of locus of control, its theoretical relationship to health behaviors, and more specifically its applicability to childbirth research. The assessment of womens' personality characteristics related to their choice of site for childbirth was deemed important.

Basically, the literature suggests personal control has both Intrapersonal and Extrapersonal, or situational dimensions. These dimensions have been related to the construct of locus of control. The Intrapersonal dimension includes those aspects of one's control regarding one's behavior and participation in one's childbirth experience, while the Extrapersonal aspect concerns one's choice regarding the environment and nature of the situation one chooses for one's childbirth experience. For the purpose of this study, the focus was on personal control.

This chapter is organized into four sections. Both data-based and conceptual literature were reviewed (Fox, 1982, p.90). The first three sections address data-based literature related to health behavior, while the fourth section is a review of both conceptual and data-based literature specific to childbirth. Finally, significant implications of the health locus of control construct for the current

study are identified as they relate to womens' behavior during the childbearing cycle.

The literature reviewed included studies which employed one of three different instruments to measure locus of control. Initially, Rotter (1966) developed the Internal-External (I-E) Locus of Control Scale which is unidimensional and measures generalized expectancies. Extensive use of this instrument revealed limitations when used to predict situation-specific learning and behavior, determining behavioral change and health practices (Rotter, 1975). This instrument was shown to predict at a lower level and over a broader range than situation-specific measures. To improve upon Rotter's I-E Scale (1966) in predicting health-related behaviors, Wallston, Wallston, Kaplan, and Maides (1976a) designed the Health Locus of Control Scale (HLC) to measure situation-specific dimensions related to health behaviors. This scale, too, was not as sufficiently precise for the intended purpose. Levenson (1973a) proposed that the external dimension encompassed chance and powerful others as two separate expectancies. In 1978, based upon Levenson's work and the Health Locus of Control Scale, Wallston, Wallston, and De Vellis developed the Multidimensional Health Locus of Control Scale (MHLC). The Multidimensional Health Locus of Control Scale was designed to predict three separate dimensions of health-related behavior: Internal Health Locus of Control (IHLC), Powerful Others Health Locus of Control (PHLC), and Chance Health Locus of Control (CHLC).

The terms Locus of Control (LOC) and Health Locus of Control (HLC) are used as defined in Chapter I, and the terms 'internals' and

'externals' hereafter refer to individuals having either an internal or external locus of control orientation. The review of the literature proceeds by addressing data-based research on health behavior employing Rotter's I-E Scale (1966), secondly, using Wallston, Wallston, Kaplan, and Maides' HLC Scale (1976a), and thirdly, using Wallston, Wallston and DeVellis' MHLC Scale (1978c). Related conceptual and data-based research on LOC and maternal behavior are addressed. Finally, implications of the literature reviewed in this chapter are discussed.

Locus of Control and Health Behavior

Limitations of the use of Rotter's I-E Scale (1966) are acknowledged by this writer. This scale, however, has been used extensively to predict and explain behavioral differences of individuals in health-related situations. Several studies are therefore noteworthy. Research using this Scale has focused on various life events concerned with measurement of attitudes and values; knowledge acquisition to maintain personal health; desire and motivation to use acquired knowledge, and compliance behavior for personal effectiveness and social functioning. Some specific health behaviors researched included psychological adjustment to specific environments, stress and anxiety, contraceptive use, obesity, smoking and alcohol.

Several studies show that internals who perceive they have control over events or situations are better socially adjusted (Averill, 1973; Kilmann, Laval & Wanlass, 1978; Lamontagne, 1984;

Taylor, Lichtman & Wood, 1984; Thompson, 1981; Nannis, Susman, Strope, Woodruff, Hersch, Levine & Pizzo, 1982; Youkilis & Bootzin, 1979; Ziegler & Reid, 1979), have a greater propensity to gather information about their condition (DuCette & Wolk, 1973), and exert control over illness experiences (Lowery & DuCette, 1976; Seeman & Evans, 1962). Nevertheless, inconsistent results have been found in other studies (Archer & Stein, 1978; Blignault & Brown, 1979; Crandall & Lehman, 1977; Graham & Conley, 1971; Houston, 1972; Joe, 1971; Lowery, Jacobsen & Keane, 1975; Lundy, 1972; Macdonald, 1970; McCreary & Turner, 1984; Naditch, Gargan & Michael, 1975; Patton & Freitag, 1977; Rotter & Mulry, 1965; Schmitt & Wooldridge, 1973; Segal & DuCette, 1973). It is acknowledged that these inconsistencies may be attributed to a simplistic conceptualization of an internal-external dichotomy. Despite some conflicting findings, these studies do suggest internals are probably more effective in both cognitive and motivational aspects of behavior related to their health.

Health Locus of Control and Health Behavior

Using the Health Locus of Control (HLC) Scale, Wallston et al.'s (1976a) findings showed greater statistical significance than the studies using Rotter's I-E Scale (1966) when classifying individuals as internal or external. When using the HLC Scale, researchers found internals were more likely to assume responsibility for their own health (Strickland, 1978) and demonstrated more adaptive coping modes to life stressors than externals (Hutner & Locke, 1984; Seeman & Seeman, 1983).

Internal health locus of control is associated with intent to seek information regarding health maintenance; however, findings are inconsistent between intended and actual information-seeking behaviors. Several researchers maintain the intent to seek and obtain information, and the intent to perform, and actual performance of behavior are functions of both HLC and health values (Ajzen & Fishbein, 1970; Jaccard, 1975; Krishner, Darley & Darley, 1973; Wallston et al., 1976b).

Internal HLC is also associated with having more knowledge about conditions (Lowery & DuCette, 1976), well-being and education (Boyle & Sielski, 1981). Internals participating in health education for self-care were found to increase their knowledge and have more positive attitudes toward health and healthcare professionals than externals (Igoe, 1980; Sheldon, 1980). Other researchers, however, found little relationship between intended and actual behavior, and suggest that HLC be examined in relation to actual behavior (DeVito, Bodganowicz & Reznikoff, 1982; Saltzer, 1978).

These studies suggest internals who highly value health, seek more information than either internals with low health value, or externals with either low or high health values. This supports the notion that behavior can be predicted from interaction between cognitive and motivational factors.

Multidimensional Health Locus of Control and Health Behavior

Findings from studies in which the MHLC Scale has been employed have shown internal LOC is related to higher educational level (Germer

& Price, 1981), with internals more likely to engage in health activities than externals (O'Connell & Price, 1982). Externals of low socioeconomic status or ethnic minorities are less likely to comply with middle class health-seeking values and behaviors (Rosenstock, 1974; Steele & McBroom, 1972). Education and culture may therefore be important variables in determining the relationship of LOC and choice of site for childbirth. The significance of these findings are that specific programs for both externals and internals must be considered to effectively change health promoting behaviors.

Findings from several studies confirm that participants who have a high internal locus of control benefit most from educational programs (Gierszewski, 1983; Krampen, 1980; Shipley, 1981). These studies suggest that internals are more likely to engage in health promoting activities. Concomitantly, women who do not view pregnancy as an illness would likely be internal, seek out more information, engage in self-directed activities and choose an alternate site for childbirth.

Locus of Control and Maternal Behavior

Conceptual Literature

The predictability of an event by knowing in advance is usually necessary to experience a sense of control. Several studies indicate Alternate sites for childbirth are being selected for reasons associated with aspects of control and satisfaction with childbirth experiences (Bauwens & Anderson, 1978; Conklin & Simmons, 1979; Adamson & Gare, 1980).

Control and Satisfaction

Anderson, Bauwens and Warner (1978) interviewed 69 post-partum women who delivered at home in one metropolitan county in Arizona, United States, to identify factors associated with choosing a homebirth. These researchers suggest that choosing homebirths may be an adaptive strategy which satisfies unmet needs experienced by some women who perceive hospital settings to have rigid, compulsory rules and regulations, and intervention practices. Cameron, Chase and O'Neal (1979) surveyed 83 women who planned home deliveries in Salt Lake County, Utah, United States, and identified similar reasons for choosing homebirths.

Major factors cited which relate to the choice of homebirth are responsibility for decision-making, participation in, and control of the birth process (Chute, 1985; Hazell, 1975; Simkin, 1981). A descriptive study conducted by Chute (1985), compared differences in 33 primiparous women participating in childbirth experiences in the traditional Hospital site vis-a-vis Alternate settings. Statistically significant differences were found between women in the group who had elected birth in an Alternate setting attended by nurse-midwives, and those delivered by a physician. Women in the Alternate Group expected a more active role and more participation than women in the physician group who had selected a traditional Hospital setting.

Hazell (1975) conducted an ethnographic, descriptive study of 300 elective homebirths in a metropolitan centre in California, United States. Findings indicated that women who selected homebirths had significantly different attitudes about control from those who

selected traditional birth sites. Hazell (1975) cited active participation, having control in the birthing process, and responsibility for decision-making as the major factors related to choosing homebirths. This researcher concluded studying behavior, attitudes and cultural aspects were important considerations related to the selection of site for childbirth.

Simkin (1981) suggested the reason why women choose homebirths is that the choice of a nurse-midwife appears to provide the experience for women who seek to participate in and maintain control of their childbirth experiences. Scaer and Korte (1978), when planning a new in-hospital maternity unit, conducted a telephone interview survey of 645 women to determine their preferences in maternity care. Many women preferred home-like, structural adaptations conducive to maintenance of privacy, where the major emphasis was on maintaining supportive human relations of family closeness, and where help of professional staff was available.

Willmuth (1975) conducted a retrospective evaluation of childbirth experiences of 145 post-partum women who participated in childbirth classes. Control was defined as active participation, and the study focused on women's attitudinal outcomes of control in relation to a satisfactory birth experience. Findings indicated a woman's perception of ability to maintain personal control is associated with a positive childbirth experience.

In Alberta, Field (1985) conducted an exploratory study of 48 post-partum women to determine their satisfaction with care during labor, delivery, and post-partum in relation to their childbirth

experience in both birthing-room and traditional case-room settings. Findings indicated parents were generally satisfied with labor and delivery in both settings, but neither care nor environment were perceived as totally satisfactory post-partum. These findings indicate that when women perceive that they have underlying attitudes of control and independence about pregnancy, childbirth, desire for, and active participation throughout the maternity cycle, they are likely to have satisfying childbirth experiences.

Childbirth Education

Psychological factors related to the concept of control in relation to satisfactory birth experiences through childbirth education preparation have been the focus of several studies. However, no psychological or environmental factors have been effectively separated from childbirth preparation. Some studies suggest that childbirth education contributes to personal control and satisfaction with childbirth experiences (Davenport-Slack & Boylan, 1974; Huttel, Mitchell, Fischer & Meyer, 1972).

Davenport-Slack and Boylan (1974) investigated the relationship between eleven psychological factors and six childbirth outcomes to determine which women were more likely to have positive or negative childbirth experiences. Seventy-five women having childbirth education preparation available participated. Findings suggested childbirth education preparation contributed to control during childbirth, amount of medication used, and to the experience of childbirth, but did not contribute to variance in length of labor, self-report of pain, nor was descriptive of satisfactory childbirth

experiences. These researchers concluded that women who expected to take less medication for pain also achieved shorter labors, held positive, independent attitudes about childbirth, and described more positive childbirth experiences. Findings from this study suggest that when women hold underlying attitudes of control and independence about pregnancy and childbirth, and desire and actively participate throughout the maternity cycle, they are more likely to have satisfying childbirth experiences. These findings are consistent with an earlier study conducted by Huttel, Mitchell, Fischer and Meyer (1972).

In a quantitative evaluative study, Huttel et al. (1972) tested the effectiveness of the psycho-prophylactic method (PPM) of childbirth education preparation of 31 primiparae (and their male partners), and compared them with a control group of 41 women. Findings indicated childbirth prepared women were better self-controlled and demanded significantly less medication during labor and delivery. They noted "...the presence of partners seemed to contribute to a more positive childbirth experience" (p.91).

These studies suggest that women who chose childbirth education and utilized techniques during labor and delivery may have done so because they believed controlling the process would lead to increased satisfaction with their childbirth experience.

Nunnally and Aguiar (1974) conducted an attitude survey to determine womens' responses to labor and delivery experiences based on attendance or non-attendance at pre-natal classes. They also examined whether learning occurred among attenders versus non-attenders.

Findings were consistent with those of Tanzer and Block (1972) who found attenders scored higher on knowledge retention, had significantly more positive attitudes toward labor and delivery, and had more satisfying childbirth experiences than non-attenders at pre-natal classes.

Moore (1983) conducted an exploratory study of longitudinal design to determine satisfaction of childbirth experiences of 105 couples participating in two types of childbirth education programs. Couples who were prepared by the Psychoprophylactic Prepared Method (PPM) reported more control and satisfaction with their childbirth experiences than the Hospital-Class prepared couples.

Health Value and Attitudes

An earlier longitudinal study by Rosengren (1961) explored the relationship of women who perceived pregnancy as an illness with social psychologic characteristics of women experiencing difficulties during labor and delivery (p.515). A significant relationship between women's definition of pregnancy as illness, and length of labor was found. The researcher concluded that "...women's social psychologic limits can be differentiated in terms of kind and extent of difficulties they experience during labor and delivery" (Rosengren, 1961, p.520).

Data-Based Literature

Locus of Control, Childbirth Educational Preparation and Satisfaction. Data-based studies have focused on the relationship of

different methods of childbirth education preparation to locus of control, using Rotter's I-E Scale (1966) of generalized expectancies.

Willmuth, Weaver and Borenstein (1978) investigated the satisfaction of 118 post-partum women having childbirth education preparation and the relationship to LOC. Rotter's I-E Scale was administered pre and post-partum, and on comparing scores, findings indicated a positive correlation between the satisfaction of childbirth education prepared women and internal LOC. However, no association was found for non-attenders of childbirth education. Since pre and post-LOC scores did not differ between the two groups, labor and delivery did not strongly influence LOC, and thus suggests satisfactory outcomes of childbirth education prepared women may depend upon the individual's LOC. Multiple factors influencing satisfaction with prepared childbirth education need clarification through research.

Felton and Segelman (1978) investigated changes in pre-natal beliefs about the origins of control for behavior and its consequences after completion of three types of childbirth education programs. Following childbirth education women became more internally oriented. Lamaze-type prepared women showed a significant increase in viewing themselves as origins of control after the births of their babies than immediately after training. Researchers attributed this change to women's focus on fear of the expected complications during labor and delivery, and on congenital anomalies rather than on any change in belief of control regarding the process itself. These findings were consistent with those of other researchers (Willmuth, 1975; Tanzer &

Block, 1972; Willmuth et al., 1978) who found a positive correlation between childbirth education prepared women and Internal LOC.

Locus of Control and Pain in Childbirth. Scott-Palmer and Skevington (1981) investigated the relationship between LOC and self-reported pain during childbirth and menstruation. A group of 30 laboring women and a control group of 30 normal, non-pregnant women were studied. Correlation of pain with LOC indicated beliefs in control were closely related to the degree of painful bodily experiences such as childbirth. This suggested that some internals possibly prefer more control. While internals had short painful labors, externals reported longer labors and less pain. External beliefs may be a coping strategy that makes labor less painful for these women than for those with internal beliefs. Painful bodily experiences may also be cognitively mediated by beliefs about control. This study suggested there may be a group of women with an internal LOC who prefer more personal control over labor, and also a group of external LOC women who prefer that staff or others have control.

Brewin and Bradley (1982) studied the relationship between women's expectations about their personal control and staff control during childbirth. A total sample of 78 women at 39 weeks gestation who were both attenders and non-attenders of childbirth education participated in the study. Using a 7-point Likert Scale pre-delivery, and a 5-point Likert Scale post-delivery, attenders expected more control over discomfort, reported less pain, were more likely to have labor induced or accelerated pharmacologically, but felt no less anxious about childbirth than non-attenders. Non-attenders reported

greater discomfort, and also showed significant relationships between perception of staff control and their reported discomfort. A significant relationship was found between perceived staff control and discomfort for non-attenders, but between personal control and discomfort among attenders. Findings suggested attendance at childbirth education may serve to influence beliefs about increasing one's perception of personal control, thus increasing a sense of mastery over the childbirth experience. The generalizability of Brewin and Bradley's (1982) study is limited since the concept of 'control' was not measured using a recognized scale for locus of control, nor was there any indication that the instruments were tested for reliability or validity. However, this study does provide a basis for replication using a multidimensional health locus of control scale specific to childbirth.

Several researchers addressed the lack of studies on women who do not participate in childbirth education, and suggested findings on the relationship of LOC and learning in this area were inconclusive (Blankfield & Wood, 1971; Grimm, 1967; Mead & Newton, 1967). Furthermore, the foregoing studies failed to control for effects of environmental factors on subjective childbirth experiences. Hodnett (1982) also cited this as a major weakness in several studies.

Locus of Control During Labor-New Instruments. Several researchers have recognized the significance of maintenance of control in childbirth and have developed instruments to measure subjective perceptions of control during labor (Butani & Hodnett, 1980; Highly & Mercer, 1978; Oliver, 1972).

Hodnett (1982) studied 30 laboring primiparae women who had attended childbirth education classes. She examined the effects of two types of fetal-monitoring as environmental factors influencing the womens' control during labor. Control was specifically associated to restraint versus non-restraint of the two types of fetal monitoring. Hodnett (1982) developed a Labor Agentry Scale, a 76-item summative rating scale measuring the subject's experienced control during childbirth. Testing on a convenience sample of 100 post-partum women resulted in a 28-item scale with an alpha reliability of .98. No baseline pre-natal expectation for control was established, nor was the validity of the instrument acknowledged. Findings indicated that radio-telemetric fetal monitoring of women during labor was significantly more effective in facilitating women's perceptions of control than using standard electronic devices. This is only one of multiple environmental factors which women may perceive as impinging upon their control during labor.

Hodnett's (1982) study provides a basis for examining factors related to perception of control in labor, however, several limitations of this study preclude the generalizability of the findings. These limitations include: the small primiparae sample; a setting with specific obstetrical practices, for example, greater than 50% of the sample had labor medically induced or stimulated; the use of a new instrument without rigorous testing for validity and reliability, and the testing of a sample during the post-partum rather than the intra-partum period.

Childbirth Evaluation and Control. Bernardini, Maloni and Stegman (1983) evaluated neuromuscular control of 94 women during the first stage of labor and identified factors influencing neuromuscular control. Sixty-two primiparae and 32 multiparae were randomly selected who intended to use Lamaze techniques during the first stage of labor. Groups were categorized as self-taught or class-taught. The instrument used to measure control was developed from a pilot study based on researcher experience and observation of 100 laboring women. Neither validity nor reliability of the instrument was reported. Findings indicated class-taught women maintained a significantly higher level of neuromuscular control during labor than self-taught women. The findings of this study indicated class-taught Lamaze childbirth education is an important factor influencing maintenance of control during labor.

Childbirth Education, Locus of Control, and Satisfaction. O'Connell (1983) studied 44 middle-class volunteer, primiparae from childbirth education prepared classes between 25-35 weeks gestation to determine the expectancy of control specific to pregnancy. The Pregnancy Attitude Index (PAI) Scale was developed by O'Connell, based on Levinson's generalized expectancy control scales. It contained 24 items, 8 in each Internal, Powerful Others and Chance Control Scales (O'Connell, 1983, p.162). There was evidence provided to show both internal and external construct validity were established. Instrument reliability was indicated by a significant correlation between internal and chance control scales ($r=0.611$ and $r=0.658$ at 0.00001 level of significance). A significant correlation between powerful

others control scales (r=.36 at .016 level of significance) and Levinson's control scale was also found. Findings indicate expectancy of control specific to pregnancy can be measured using the PAI Scale and suggest expectancy of control affects an individual's satisfaction with childbirth experiences. Although this tool was found to be statistically valid and reliable, an instrument incorporating health and illness prevention attitudes and values would appear to have greater potential for measuring expectancies specific to childbirth.

Schroeder (1985) maintains operationalization of satisfactory birth experiences can be accomplished using psychological, obstetrical and attitudinal measures. This researcher developed and tested the Schroeder Labor Locus of Control (SLLOC) Scale based on Rotter's and Levinson's instruments, and aimed at measurement of locus of control specific to childbirth. Both internal and external construct validity of the scale were performed. Two estimates of reliability were obtained with stability at .80 and internal consistency at .70.

Schroeder (1985) studied a convenience sample of 61 primiparae, administering the SLLOC Scale pre and post-delivery, and compared congruency between expected and actual experience of control during childbirth, of childbirth education attenders and non-attenders. Findings revealed that childbirth education attenders experienced less control than they expected while non-attenders had more control than expected. Childbirth education attenders also had higher expectations of themselves. An explanation for this may be that childbirth education attenders who are more internal to begin with, score more external when they fail to meet expectations. Conversely,

non-attenders who are more external to begin with expect to have less control and thus perceive they have greater control.

The SLLOC Scale (Schroeder, 1985) is the first instrument developed specifically to measure expected and actual experience of control during childbirth. This tool has potential for use in future studies measuring expectation for control during childbirth.

Locus of Control, Psychoprophylaxis and Choice. Windwer (1977) studied the relationship among LOC, social desirability, and choice of psychoprophylaxis method (PPM). LOC and social desirability were not significantly related to parent's choice of PPM. Additional findings indicated obstetricians did not influence choosing PPM, but participation in the childbirth process and a desire for couples to be together were significant factors. Findings are limited in that Rotter's (1966) I-E Scale is a unidimensional generalized scale, and does not measure the individual's values and attitudes specific to childbirth.

Brackbill, Woodward, McManus and Ireson (1984) pointed out that although several studies examined parents' reasons for avoiding a hospital site for childbirth, none focused on reasons for choosing alternative sites or on characteristics of women who made this decision. Brackbill et al.'s (1984) study therefore focused on identifying characteristics of 200 women choosing alternate sites for childbirth. The sample included 100 women who selected free-standing birthing centers and 100 who selected a hospital site. Data were collected through structured post-partum interviews using an adapted Health-Promoting Behavior Scale and Rotter's I-E Scale (1966).

Those choosing birthing centers had a higher socio-economic status and level of education, were primarily primiparous, and held traditional religious beliefs. Those choosing home delivery had a lower socio-economic status, had fewer years of education, held non-traditional religious preferences, and the majority had experienced at least one childbirth. Those selecting birthing centers used more drugs during pregnancy, labor, and delivery. Nurse-midwives were the most frequently consulted professionals by both groups. No differences in LOC were found between groups in health-promoting behaviors, and both groups viewed risks similarily for both sites of childbirth, rejecting the myth that hospitals are 'safer' than alternate sites. Cost was a major factor in the selection of homebirths. Safety, and ability and experience of nurse-midwives were cited as the predominant reasons for choosing a birthing center site.

Brackbill et al. (1984) found that significant others most frequently disapproved of non-traditional sites. Both groups were satisfied with the selected site and expected to select the same site for subsequent childbirths. Only 11 of 71 women who had home deliveries had had previous hospital deliveries, which suggests factors other than actual experience influenced the decision of choice of site. Findings suggest internal LOC leads to independent choice of site for childbirth, and that providing information allows participation in decision-making, thus increasing the sense of satisfaction. The use of retrospective interview techniques and only two birthing centers provides the potential for biased findings. In

addition, the use of an adapted untested tool, and a unidimensional LOC Scale limits the generalizability of the findings of this study.

Although several studies identified issues of choice as important predictors of site and satisfaction with childbirth experiences (Scaer & Korte, 1978; Hosford, 1977; Hazell, 1975), only one study focused on the choice of Hospital or Alternate birth site as a function of HLC (Fullerton, 1981). Fullerton (1981) proposed that women who chose an Alternate site for childbirth could be distinguished from those who chose the traditional Hospital site by their attitudes toward issues of personal and situational control. She hypothesized that choosers of Alternate sites would more likely have an internal locus of control orientation. Subjects in this study were 33 low-risk pre-natal women from an urban, middle-class population in Pennsylvania, United States. Subjects were matched retrospectively on age, parity and marital status. They were selected from both a physician group who chose in-hospital childbirth (65), and a nurse-midwife group who chose a birthing center or home birth (41), two legitimate options within the health care services with qualified health professionals.

Fullerton (1981) administered Wallston et al.'s (1978) Multidimensional Health Locus of Control Scale (MHLC), and the Attitude Toward Issues of Choice in Childbirth Scale (ATICC) developed by the researcher. The MHLC is a recognized measure for predicting health-related behaviors. Construct validity was derived from a correlation with Levinson's (1973) internal, powerful others and chance Scale. Correlations ranged from r=.275 to .567 on the Levinson

Scale with each subscale of MHLC at the .01 level of significance, while alpha reliabilities ranged from .670 to .859 on all forms of item scales. Fullerton's ATICC Scale (1981) was developed in accordance with recognized instrument development criteria (Nunnally, 1978). The scale consists of 18 items in a six-point Likert-like format. Reliability obtained for the 18-item scale was r=.94, Intrapersonal Scale r=.86, and Extrapersonal Scale r=.91. Multivariate statistics were used and a significance level of .05 probability was established.

Fullerton (1981) found out-of-hospital site choosers were consistently more internally oriented and held more positive attitudes about making choices specific to childbirth. She states "...there exists a continuum of attitude toward issues of choice in childbirth and that this attitude is related to the degree of control one expects to exert over specific life events" (Fullerton, 1981, p.54).

Fullerton's (1981) argument for using locus of control is based on the fact that when subjects had attended prenatal classes and subsequently applied the knowledge to the labor situation, locus of control "...distinguished satisfied users of PPM from non-users of this method"(p.12). She argued that by extrapolation, this should then apply to other methods of childbirth preparation. Locus of control and use of a method of prepared childbirth did distinguish those satisfied with their birth experience from those dissatisfied.

Women who freely choose an Alternate site for childbirth can be viewed as exerting both cognitive and motivational dimensions of LOC. It was therefore anticipated that those who selected an Alternate site

for childbirth would more likely show an internal orientation on a health specific measure of LOC, while those who selected the Hospital site would more likely be externally oriented. Moreover, in light of the studies of health value and HLC, those who chose Alternate birth sites would more likely show positive attitudes towards making choices within the setting.

Fullerton (1981) acknowledged the limitations of her study as being those inherent to an ex post facto matched sample study design, and that the unmatched variables and the choice of site for childbirth likely influenced by a significant other person might account for the results of differences between the study groups (p.40). It is noteworthy that subjects were not matched on the basis of education or childbirth education, given that both learning and childbirth education have been cited in numerous studies as important in relation to HLC. Literature on health locus of control indicates there are differences in HLC among achievers versus non-achievers, information-seeking, problem-solving, decision-making and effective learning styles (Lefcourt, 1982). Including subjects as young as 17 years could bias findings because levels of maturity and life experiences also influence HLC.

Although Fullerton's (1981) new instrument showed strong correlations, the fact that a .05 level of significance was observed does increase the potential for a Type I error. This, however, may be allowed for in subsequent studies if the probability level is increased. Despite some recognized shortcomings in Fullerton's study, this researcher believed that there was potential merit for further

exploration of the construct health locus of control and women's attitudes specific to childbirth within a Canadian population. This researcher therefore chose to use Fullerton's ATICC Scale (1981) on a Canadian sample, re-testing it for reliability, and using Multivariate Analysis tests as recommended by Fullerton (1981, p.64).

Summary

Many studies have focused on the effectiveness of childbirth education associated with the concept of control related to satisfying birth experiences. No psychological or environmental factors, however, have been effectively separated from childbirth education preparation. The absence of studies to separate these factors from childbirth education preparation and beliefs about illness versus health, indicates the need to research the relationships of these dimensions which may be associated with choice of site for childbirth. There is some indication that the kind and extent of difficulties women experience in childbirth may be differentiated on the basis of their perception of pregnancy as an illness versus a normal, healthy physiological process. The choice of an Alternate site attended by a nurse-midwife appeared to result in satisfying childbirth experiences for women who desired participation and personal control.

The major factors identified from the literature review are that women choosing Alternate sites for childbirth desire to actively participate, have perceived control of the childbirth process, and are responsible for making their own decisions. When these factors were operant, women chose to use fewer medications, had shorter labors and

described positive birth experiences. These findings suggest that behavior and attitudinal factors are important, and that aspects of perceived control and satisfaction are associated underlying factors related to the selection of an Alternate site for childbirth.

Women who perceive Hospital settings to be rigid, and that personnel engage in personal invasive practices, may choose an Alternate site as an adaptive strategy to satisfy their needs. A more recent Canadian study (Field, Campbell & Buchan, 1986) indicated parents were generally satisfied with labor and delivery, but less than satisfied with post-partum care and environment. This suggests perhaps that most women who perceived the lack of a legitimate option of an Alternate site, resigned themselves to selecting a traditional Hospital setting for labor and delivery when they perceived that they may need assistance. In the post-partum period, however, women's desire for personal control and participation may be thwarted by agency structure and practices, and thus account for dissatisfaction.

There is a paucity of data-based literature on the relationship of locus of control and choice of site for childbirth. Data-based studies primarily focused on the relationship of childbirth education preparation with locus of control. Findings suggested childbirth education may contribute to one's perception of personal control and thus increase a sense of mastery over the childbirth experience. Several new instruments have been developed specific to locus of control during labor, however, the generalizability of the findings are limited due to the lack of rigorous testing.

The strength of Fullerton's (1981) study is the utilization of a multidimensional instrument measuring attitudes about health, along with a reputedly valid and reliable instrument (Fullerton, 1981, p.33), designed specifically to measure the attitudes of childbearing women toward issues of choice in childbirth. Although other newly developed instruments addressed some issues in childbirth, most were neither multidimensional, nor related to health behaviors.

Since Fullerton's study was tested on a limited sample, findings can only be generalized to a population having similar sociodemographic characteristics. Furthermore, the literature indicates education and ethnicity are important variables related to health value and subsequent health behaviors. Therefore, there was value in replicating and expanding upon this study using a Canadian sample to determine if results may be generalized to a wider population of childbearing women.

CHAPTER III

Method

Research Design

An ex post facto correlational design was used for this study (Polit & Hungler, 1983). A similar method and approach to that used by Fullerton (1981) for instrumentation and data gathering was followed. The major differences were that the subjects under study had no legitimate option from the Hospital site for childbirth, and that cost for service was not a factor given the availability of universal healthcare insurance. The investigator believes, however, that these differences neither limited nor forced a choice for the subjects as they had already selected their choice of site for childbirth by having attended either a physician or nurse-midwife prior to being contacted for the study.

The method used in selecting the sample for the study was stratified sampling with replacement (Fox, 1982, p.280). A quota sample of thirty subjects was selected from the Alternate Group. Available participants were stratified according to parity (primiparous or multiparous), and from each stratum an equal number of subjects were selected from the Hospital Group. The two groups were then compared retrospectively on the variables of age, ethnicity, education and income.

The independent variable was site of childbirth. The five dependent variables measured were Intrapersonal control and Extrapersonal control measured by the ATICC Scale, and Internal,

Powerful Others and Chance as origins of control measured by the MHLC Scale.

Sample

A convenience sample of (N=60) pre-natal women was selected from a western Canadian, urban, multi-ethnic community between January and July 1987. Participants were accessed through the practices of three obstetricians whose clients planned to deliver at one urban hospital, and one nurse-midwife, whose clients planned to deliver at home. These practices, although independent of each other, are all located in the same city, and serve the same catchment area.

All subjects were between the ages of 21 to 40 years, in a stable relationship, had at least a grade eight education, and were judged able to speak and write English. Subjects also met the criteria for being low-risk, that is, they scored three or less on the Antepartum Risk Scoring Form (Appendix G), and were between 32 and 40 weeks gestation on admission to the study. This researcher determined that all criteria had been met based on the information gleaned from client records and on the opinions of the physicians and nurse-midwife.

Instruments

Two instruments were used in this study. They were Wallston et al.'s MHLC Scale (1978c) which measured health locus of control (Appendix A), and Fullerton's ATICC Scale (1981) which measured attitudes toward issues of choice in childbirth (Appendix D). These instruments are described in the following text.

Multidimensional Health Locus of Control Scale (MHLC).

The MHLC Scale was developed by Wallston et al. (1978c) as a sequel to the original HLC Scale (Wallston et al., 1976a). The MHLC Scale was designed for use with adults having at least a grade eight reading level (Wallston et al., 1978, p.16). This scale measures the generalized expectancy one has about who or what may affect one's own health, and is used to increase understanding and prediction of health behaviors by assessing more than one dimension of health locus of control. The scale is divided into three subscales: Internal Health Locus of Control (IHLC), Powerful Others Health Locus of Control (PHLC), and Chance Health Locus of Control (CHLC).

The MHLC Scale consists of 18 items developed in two Forms, A and B (Appendix A). Each subscale is designed in a Likert-like format and consists of six items. Alpha reliabilities for the MHLC scales ranged from .673 to .767 for the six-item forms, and from .830 to .859 when A & B Forms were combined into scales of 12-items, indicating internal consistency of the scales (Wallston et al. 1978c, p.163). These researchers found that the alpha reliability coefficients of the MHLC scales compared favorably with Levenson's 8-item I, P, and C scales (.508 to .733) (p.163). Furthermore, Wallston et al. (1978c) have investigated and reported some evidence of validity of the MHLC instrument. These authors do, however, acknowledge that until this instrument is repeatedly used, the extent of the reliability and validity will be unknown (p.169).

Attitude Toward Issues of Choice in Childbirth Scale (ATICC).

To answer the research questions posed in this study, women's attitudes regarding issues specific to the childbirth environment must be measured. The only instrument identified in the literature which measured attitudes specific to the childbirth experience was one designed by Fullerton (1981).

Fullerton (1981) used Nunnally's (1978) methodology for scale construction to develop the ATICC Scale. The ATICC Scale consists of 18 items. Ten items in the Intrapersonal Subscale relate to issues of decisions regarding one's person, and eight items in the Extrapersonal Subscale relate to issues such as decisions as to birth site and environment. The instrument format is a six-point Likert-like Scale, with a range from Strongly Disagree (1) to Strongly Agree (6).

A heterogeneous adult sample of 107 subjects was used to test this scale. Internal consistency of the scale was established with an alpha reliability >.80. The 18-item scale yielded an alpha reliability coefficient of .94 (the Intra Scale .86, and Extra Scale .91).

Ethical Considerations

Participants were assured that no risks or discomfort would be incurred as a result of their participation in the study, and that approximately 30 minutes of their time was required to complete the questionnaires. They were advised that they could withdraw from the study at any time, and that participation or non-participation would in no way affect the quality of their care.

Participants were fully informed and voluntarily completed a consent (Appendix H) for participation in the study. They were assured that their names would not be used in the study, and advised that the data would be reported in group form and used for research purposes only. Questionnaires were destroyed once the raw data had been coded, grouped, and analyzed. The participating care providers were apprised of all measures taken to maintain the anonymity of clients in relation to the information they supplied.

All data collected were stored in the investigator's personal locked cabinet during the study. Cooperating care providers and subjects who returned the stamped post-card were provided with feedback on completion of the study.

Procedure

Subjects in this study were accessed through personal consultation and agreement of three obstetricians and one nurse-midwife who were provided with an abstract of the study and the letter of introduction to the clients (Appendix I). Clients who met all the researcher's criteria outlined earlier in this chapter were identified from the four practices. The letter of introduction was placed in each client's prenatal record of the Hospital Group by the researcher, and given to the nurse-midwife for the Alternate Group participants. The three obstetricians and the nurse-midwife subsequently asked their client's permission to give the researcher their names and telephone numbers, and clients were provided with the letter of introduction at that time. The caregivers then provided the researcher with the names

and telephone numbers of those clients who agreed to speak with the researcher about participating in this study.

The researcher telephoned each subject. At that time, the researcher introduced herself to the subject, again presented an overview of the study, and any questions or concerns raised by the prospective participant were addressed. Upon the agreement of the subject to participate in the study, her address was obtained. Each subject was advised that she would receive a package in the mail, and was instructed regarding the completion and return of its contents. Following this, each subject was mailed a package containing a consent form (Appendix H), biographical data sheet (Appendix J), two questionnaires (Appendices C & F), and a self-addressed, stamped envelope and post-card. The participants were asked to complete these and return them to the investigator within a two-week period. If these documents were not received by the investigator within this time period, a follow-up telephone call was made.

A total of 33 participants in the Alternate Group were contacted, of which two subjects did not participate, and one did not meet the low-risk criteria. Of the 32 Hospital Group subjects contacted, two did not participate. Participants who wished to receive feedback on the study were asked to return the stamped post-card. Twenty-eight of the Alternate Group subjects, and 26 of the Hospital Group subjects returned post-cards.

To minimize researcher bias, the researcher's assistant separated and placed the data sheets, questionnaires and post-cards in three

designated envelopes as they were returned. They were then placed in a locked filing cabinet. The same procedure was used for both groups.

Analysis of Data

The level of significance for this study was established at .05. A univariate ANOVA and an ANCOVA were employed for comparing the two groups. Hotelling's T^2 and Discriminant Analysis were used to analyze the data. Hotelling's T^2 is a special case of MANOVA in which two groups comprise the independent variable (Tabachnick & Fidell, 1983, p.56). Hotelling's T^2 is a method used for comparing multiple dependent variables for two groups, designed to test differences in all dependent variables between groups simultaneously. Discriminant Analysis was used after Multivariate Analysis of Variance (MANOVA) for the purpose of identifying variables which discriminate the groups most (Pedhazur, 1982, p.692).

CHAPTER IV

Results

The objective of this study was to determine whether or not there was a difference in the locus of control and attitudes about issues of choice in childbirth between women who chose a Hospital site for childbirth from those who chose an Alternate site for childbirth. In this chapter, the results from the Data Sheet, and the Multidimensional Health Locus of Control and Attitude Towards Issues of Choice in Childbirth questionnaires are presented and illustrated in Tables K-1 through K-12. The results of this study suggested equivalence of both groups of women choosing Hospital and Alternate sites for childbirth on all biographical characteristics as there was no significant difference evident except on family income, which was significantly different at the .05 level. Further, the results indicated that Hospital and Alternate birth site choosers did differ significantly on the dependent variables when they were measured simultaneously.

Description of Samples

A sample of 30 women for each of the two independent groups of prenatal women was accessed for this study. Data collection was completed between January and July, 1987. The questionnaires used for this study were comprised of three sets of questions. These questionnaires were related to biographical characteristics, health locus of control, and attitudes towards issues of choice in

childbirth. Both groups of women completed the questionnaires in their own homes and returned them to the researcher by mail.

Of the 32 questionnaires mailed to the Hospital Group, thirty were returned. Thirty-one of the 33 questionnaires mailed to the Alternate Group were returned. One response from the Alternate Group was eliminated from the study because it did not meet the maternal low-risk criteria required for participation in this study. Responses to the MHLC and ATICC questionnaires returned by both groups were complete for analysis.

The sampling procedure was described in Chapter III. As random allocation could not be accomplished, the thirty respondents from the Alternate Group were matched on parity with subjects from the Hospital Group in an effort to control the effects of parity on attitude. The groups were then examined to determine their similarity on other selected variables.

Parity of the subjects in this study is presented in Table 4.1. The Hospital Group on average was at 36.6 weeks gestation, and the Alternate Group at 35.9 weeks gestation at the time of data collection.

Table 4.1

Frequency of Parity of Subjects Studied

Parity	Hospital Group (n = 30)	Alternate Group (n = 30)	Total (N = 60)
0 (Primiparous)	9	9	18
1	11	11	22
2	7	7	14
3	2	2	4
4	1	1	2

Biographical Characteristics

The biographical characteristics of both groups of women choosing Hospital and Alternate sites for childbirth were compared for differences on the variables of age, education, ethnicity, and income to determine their equivalence. All biographical characteristics are presented in Tables K-1 and K-2.

Analysis of the biographical data using a Chi-square test revealed both groups to be comparable in that no significant difference was found between groups, except for the income variable, with the Hospital Group having a higher income (Table K-1).

Age. The range and distribution of maternal age is presented in Table K-1. Only 8.3% of the total sample population were 20-25 years of age. From the total sample, 78.3% were between the ages of 26-34 years of age. There was little difference between groups in this age category, with 25 in the Hospital Group, and 22 in the Alternate Group. Of the 35-40 years age category there were 13.3% (28). Forty-seven percent (28) of the total study population were 26-29 years of age, 45% were 30-40 years of age (19 between 30-34 and 8 between 35-40 years of age).

Education. There was a similar distribution for both groups in each category of educational level achieved. Thirty-five subjects of the total sample had achieved a Grade 8-12 level of education, of which only 6.7% were in the Grades 8-10 category. There were 33.3% in the 1-2 years post-secondary category, while 31.7% were university graduates.

Ethnicity. The racial distribution of both groups was Caucasian. Ethnic origin was initially coded according to Statistics Canada Ethnic Groupings (1986). For cross-tabulation purposes of this study these groups were subsequently condensed into the following categories:

1. British Isles: included English, Scottish, Scottish-Dual, Welsh, Irish.
2. Canadian: included Canadian and French-Canadian
3. European: included French, German, Dutch, Scandinavian, and Dual European
4. Eastern European: included Polish, Ukrainian and Jewish.

Almost one-half of both groups (46.7%) were of British ethnic origin, while the remainder of both groups were fairly similarly distributed among Canadian, European and Eastern European ethnic origins.

Income. The only biographic variable on which the two groups differed was family income. A significant difference was demonstrated using a Chi-Square test [χ^2=(4, N=60)=12.33, $p<.05$]. No respondents in the Hospital Group earned less than $20,000, however, 23.4% (7) of the Alternate Group were in this category. Of the Hospital Group, 83.3% compared to 53.3% of the Alternate Group earned more than $30,000. Data revealed that thirty percent of both groups had a family income of $30,000 to $39,000.

Other Biographical Characteristics

Results on the biographical characteristics of marital status, occupation, childbirth education attendance are presented in Table K-2. The mean differences of groups on number of pregnancies and number of children are shown in Table K-3. Using a Chi-square test it was established that both groups were comparable on these characteristics.

Marital Status. All participants in the Hospital Group were married. Twenty percent of the Alternate Group were of single status (1) or had a common-law relationship (5).

Occupation of Respondents. Occupations were initially classified using Statistics Canada Occupation Classification (1981). For cross-tabulation purposes of this study, these classifications were subsequently condensed into the following categories:

1. Professional: e.g. teacher, registered nurse, physician, dentist, professor, etc.
2. Administrative/technical/trade: eg. business manager, secretarial, electrician, plumber
3. Labour/Service-Non-skilled worker: clerks, janitor, labourer.
4. Homemaker: housewife, mother, student.

Findings showed a slight difference between groups in the Professional and Homemaker categories. The professional category was represented by 33.3% of the Hospital Group and 13.3% of the Alternate Group. Results indicated that twice as many respondents in the Alternate Group were in the homemaker category. There were 23.3% of the Hospital Group and 46.7% of the Alternate Group in the homemaker category while 35% of the total sample considered homemaking to be their fulltime occupation.

Occupation of Spouse/Significant Other. Occupations of spouses were primarily in the Technical/Trade category (Hospital Group = 63.3% and Alternate Group = 53.3%).

Number of Children. The Alternate Group had slightly more children than the Hospital Group.

Childbirth Education-This Pregnancy. While only 53% of the Hospital Group attended childbirth education for this pregnancy, 70% of the Alternate Group had attended.

Childbirth Education Attendance-Previous Pregnancy. Of the 21 potential respondents (multiparous) from each group (9 were primiparous), 19 out of 21 of the Hospital Group, and 20 out of 21 of

the Alternate Group had attended childbirth education for a previous pregnancy. Two multiparous subjects in the Hospital Group, and one in the Alternate Group had not attended childbirth education for a previous pregnancy. A total of 90% of the Hospital Group and 95% of the Alternate Group had attended childbirth education for a previous pregnancy.

Site of Childbirth. Table K-4 shows that all subjects in the Hospital Group who had experienced one previous childbirth had delivered in hospital. Of the Alternate Group, 26.7% had experienced their first birth out of hospital.

Reliability and Scoring of Instruments

To determine reliability, Cronbach's Alpha (Cronbach, 1970) was used. The findings of the reliability estimates on all scales are presented in Table K-5.

Multidimensional Health Locus of Control Scale (MHLC)

All scoring was done in the direction of externality. Scoring on the Internal Health Locus of Control Subscale (IHLC) was reversed for purposes of this study in order that all subscales and the total scale score were in the external direction. Therefore, subjects who scored low on the IHLC Subscale would score high on both Powerful Others Health Locus of Control (PHLC) and Chance Health Locus of Control (CHLC) Subscales (Appendix B).

Alpha reliabilities on the Internal and Chance Subscales were similar to those reported by Wallston et al. (1978c). A reliability analysis of the Powerful Others Subscale, however, revealed Item #7,

"My family has a lot to do with my becoming sick or staying healthy", to be negatively correlated with Items 2, 3, 5 and 16 (Appendix A). Item #7 was deleted to improve the strength of the scale. A reliability analysis showed an alpha coefficient of .87 when this item was deleted, reducing the total scale to 17 items.

Attitude Towards Issues of Choice in Childbirth Scale (ATICC)

All items were scored in the direction of the negative attitude (Appendix E). The scale score may range from 18-108. A score of 18 (or a lower score) is considered to indicate a greater internal attitude towards issues of choice in childbirth, while a high score (total possible 108) indicates a greater external attitude towards issues of choice in childbirth.

Reassessment of reliability of the Intrapersonal and Extrapersonal Subscales yielded alpha coefficients of .81 and .74 respectively (Table K-5). A reassessment of reliability of the total 18-item ATICC Scale used for this study demonstrated an alpha coefficient of .95 (Table K-5).

The Pearson Product-Moment Correlation was used to determine whether or not the five subscales of both instruments were related in content. The Correlation Matrix (Table K-6) illustrates moderate to high correlations between the subscales. The Intrapersonal and Extrapersonal Subscales of the ATICC Scale were highly correlated (.92), suggesting that there is no discrimination between the two Attitude Subscales, and that they actually measure only one dimension. For this reason the researcher used the total Attitude Scale for

further data analysis. Table K-7 shows correlations for the four variables IHLC, CHLC, PHLC, and Attitude.

Results from the Administration of the MHLC and ATICC Instruments to Hospital and Alternate Birthsite Chooser Groups

The independent variable in this study was childbirth site. The mean scores of Hospital and Alternate birthsite choosers are presented in Table K-8. Findings showed the Alternate Group to have a lower mean score on all variables, IHLC, CHLC, PHLC and ATICC Scales. The four dependent variables consisting of Internal, Powerful Others, and Chance (MHLC Scale) and Attitude (ATICC Scale) were analyzed. The hypothesis tested was that the mean of the variables in the parent populations was the same between the two groups of birthsite choosers, or that the two groups were selected from the same population. The results presented in Table K-8 show the Hospital Group to be more externally oriented, and to hold less marked attitudes towards issues of choice in childbirth.

An independent t-test was administered to compare the two groups on each subscale and total scale scores of the MHLC Scale, and on the total scale score of the ATICC Scale. Findings were significant on all four scales (Table K-9). Results indicate that the two groups did not belong to the same population, or that they were different in terms of the four variables, and that the site of childbirth was associated with the four dependent variables. The data presented in Table K-9 shows that, based on the total scale scores, the two groups differ significantly on both health locus of control and attitudes towards issues of choice in childbirth.

The means between the two birthsite chooser groups indicated the expected direction in that the Alternate Group scored lower (more internal) on the MHLC Scale, and on the ATICC Scale showed that they held more marked attitudes about control regarding issues related to childbirth than did the Hospital Group as shown in Table K-10. Plotting Attitude with HLC by group clearly indicated two highly distinct groups (Figure 1).

Since these four scales were interrelated (Table K-6), further analysis of the data was accomplished by using Hotelling's T^2 to compare both groups on the four dependent variables with all variables entered simultaneously. A significant Hotelling's $T^2 = 154.89$, $F(4, 55) = 36.72$ at alpha = 0.05 was found. These results indicate that the mean vector of the Hospital Group differs significantly from the mean vector of the Alternate Group on the four dependent variables when compared simultaneously (Table K-11). The null hypothesis of equal mean vector is rejected, implying that the two samples could not come from the same population. One can therefore conclude that the two groups differ significantly.

A discriminant analysis function was subsequently computed for a follow-up analysis to distinguish the groups of birthsite choosers on the basis of their score profiles (Nunnally, 1978, p.453). The discriminant analysis was performed using the four variables IHLC, CHLC, PHLC and Attitude as attribute variables in linear combination of variables (discriminant function) which maximally separate the two groups; thus identifying the most discriminating variables between the two birthsite chooser groups. The Discriminant function maximally

separates the Hospital Group (1) from the Alternate Group (2), and clearly shows two distinct birthsite chooser groups (Figure 2). The classification results show that of the Hospital Group 28 out of 30, and 29 out of 30 of the Alternate Group, or 95% of grouped cases were correctly classified (Table K-12). This finding suggests the model is a close fit to the data.

Based on a step-wise procedure, the final discriminant function only included the two variables, IHLC and Attitude, showing these variables to be the most discriminating sources of difference between birthsite chooser groups. An examination of the standardized canonical discriminant function coefficients, however, showed attitude to be the overwhelming contributor to the discriminant function (Table 4.2).

Table 4.2

Canonical Discriminant Function

	FUNCTION 1
IHLC	-0.24134
Attitude	1.07586

Conclusion

Based on the mean scores of MHLC and the ATICC, the conclusion can be drawn that attitudes do differ significantly between the

Hospital and the Alternate birthsite chooser groups. The null hypothesis of equal mean, or that the two samples were drawn from the same population was rejected.

Hypothesis 1. "That women choosing an Alternate site for childbirth have a more internal health locus of control orientation than those who choose a Hospital site." As the IHLC score was shown to be a major discriminator, this hypothesis was supported.

Hypothesis 2. "That women choosing an Alternate site for childbirth would have more positive attitudes towards issues of choice in childbirth than those who chose a Hospital site." Findings are inconclusive related to this hypothesis. Because of the high correlation (.92) between the Intrapersonal and Extrapersonal dimensions of the ATICC Scale, it was concluded that the ATICC Scale does not discriminate between the two dimensions of attitudes, and thus could only be used as a total scale to compare groups. Results suggest Attitude about issues of choice in childbirth is the most discriminating variable between groups. In other words, results show only that there was a significant difference of the Alternate Group from the Hospital Group on Attitude towards issues of choice in childbirth as a total scale, while differences on specific dimensions could not be determined.

Hypothesis 3. "That locus of control orientation is related to attitudes toward issues of choice in childbirth." Limitations of using the total ATICC Scale precluded the researcher from measuring the separate dimensions of the two groups. Therefore, findings are inconclusive related to Hypthesis 3. Results show only that there was

a significant difference in the Alternate Group compared to the Hospital Group on Internal health locus of control (MHLC) and attitude towards issues of choice in childbirth (ATICC). The ATICC Scale could not be used to discriminate whether subjects held Intrapersonal or Extrapersonal attitudes towards issues of choice in childbirth. There was, however, a significant difference between groups on the MHLC Scale where the Alternate Group was found to have a greater internal locus of control orientation than the Hospital Group. Therefore, the difference between the two groups on the MHLC scale suggests that HLC may also have been a factor differentiating the two groups on Attitudes in their choice of site for childbirth.

CHAPTER V

Conclusions, Limitations, Recommendations and Implications for Nursing

In this chapter, a discussion of the results of this study and the conclusions are presented. This chapter concludes with the limitations of the study, recommendations, and the implications for nursing.

The focus of this study was to determine whether women who chose an Alternate site for childbirth differed in their health locus of control orientation and their attitudes towards issues of choice in childbirth from women who chose the traditional Hospital site for childbirth. Two research instruments, Multidimensional Health Locus of Control Scale (Appendix A), and the Attitude Toward Issues of Control in Childbirth Scale (Appendix D) were utilized in this study to measure the participant's health locus of control and attitudes towards issues of choice in childbirth. These instruments were distributed to both groups of Hospital and Alternate childbirth site choosers. The sample size of each group was small (n=30). Subjects were selected from one major urban, western Canadian locale. Matching of variables was not feasible, although in selecting the sample, equalization of groups was accomplished in part by stratification on parity. Participation in the study was voluntary and random selection was not possible. Because of these limitations, the findings of this study must be interpreted with caution and the conclusions also regarded in light of these.

Discussion of the Findings

The results of this study suggest that for the population studied, women who chose an Alternate site for childbirth were more internally oriented (desirous of personal control) and held more marked attitudes towards issues of choice in childbirth than did the Hospital site chooser group. Characteristics of the two groups are discussed in relation to the conceptual framework and the hypotheses.

Sample Description

Biographical Characteristics

The major biographical characteristics of both the Hospital and Alternate site childbirth chooser groups are summarized in Tables K-1 and K-2. Biographical variables of age, education, ethnicity, marital status, occupation, and previous childbirth education were comparable, and so were unlikely to influence the results of this study. The income variable was significant, but it should not be a major factor influencing this study as the ability to pay is not a factor under the current Canadian health care system.

Age. The ages of women in this sample are similar to those of childbearing women in other studies, and suggest that women are childbearing at a later age. This would be expected and is consistent with their educational preparation, and a societal trend where women are establishing careers before having a family.

Education. The study revealed no significant difference between the two groups on educational level achieved. As the criteria for participation in the study was a minimum of a Grade-8 level of education, the sample of both groups were found to be well educated.

Almost 32% had a university degree, 33.3% had one to two years post-secondary education, and 35% had 8-12 years of education (of which only 6.7% were in the Grade 8-10 category). This finding appears to reflect the value Western Canadian society places on education. To account for the high level of education of subjects in both groups, it would seem that some factor other than the selection procedure was operating. However, as suggested in the literature, it may be that the high interest of participants in this study as demonstrated by few replacements in the sampling procedure, was directly related to the high educational level. That is, those with a higher educational level would be expected to have a greater awareness and more information, and thus more interest in health issues related directly to their condition of pregnancy. The educational level of both groups was higher than a similar sample of women studied in the Edmonton area (University of Alberta, 1987), suggesting that this was not a representative sample, and that education could be a factor which influenced the results of this study.

Ethnicity. One may conclude from the findings, given that the ethnicity of the sample of both groups had a similar distribution of British and European origins, that all participants would have the potential awareness of Alternate sites for childbirth. Further investigation is needed with a larger sample to determine whether there may be an association between ethnicity and site for childbirth.

Income. Income was the only biographical variable on which the two groups differed; with 83.3% of the Hospital Group compared to 53.3% of the Alternate Group earning $30,000 or more, and 53.3% of the Hospital

Group compared to 23.3% of the Alternate Group earning $40,000 or more (Table K-1). This finding suggests that something other than economic means influences the choice of site for childbirth. Moreover, this finding reflects that in spite of the level of income, and paying 'out of pocket' for an Alternate childbirth site, income was neither a barrier nor an important factor in the determination of choice of site for childbirth for the Alternate Group, as has been suggested in some studies conducted in the United States. It must be noted, however, that the difference of income may also be accounted for by the fact that 46.7% of the Alternate Group compared with 23.3% of the Hospital Group were in the homemaker category (Table K-2), and were therefore likely to be a family with one income.

Other Biographical Characteristics

Marital status. All subjects in the Hospital Group had conventional married relationships, while 20% (6) of the Alternate Group had non-traditional relationships.

Occupation of Respondents. Findings suggest the Alternate Group were somewhat more oriented towards the traditional occupation of homemaking during childbearing and childrearing regardless of their educational preparation.

Childbirth Education-Previous and Present Pregnancy. The attendance of the respondents at prenatal education was impressive. This finding possibly reflects the values of this Canadian group of women towards education in general, as well as the progress and acceptance of health-teaching related to maternal-infant health.

Women from both groups were at about the same gestation at the time of data collection. Fifty-seven respondents had attended childbirth education during at least one pregnancy. Only one subject had never attended childbirth education. It was interesting that although both groups were very similar in their level of general education and in their attendance at childbirth education for a previous pregnancy, more of the Alternate Group pursued childbirth education for this pregnancy than did the Hospital Group. This suggests that the Alternate Group was more oriented towards gaining new and current information on their condition regardless of having had previous information. This finding is also characteristic of an internal locus of control orientation.

These findings would be expected and are consistent with previous studies in that a greater number of the Alternate Group were internally oriented and had a greater propensity towards seeking information about their condition and meeting their own knowledge needs.

Site of childbirth. While none of the Hospital Group experienced their first birth out of hospital, one-third of the Alternate Group had experienced their first birth out of hospital.

Analysis of the biographical data indicated that the two groups studied were comparable in terms of these variables. The only difference between the Hospital and Alternate site chooser groups was on income, with the Hospital Group having a significantly higher average income.

Reliability and Validity of the Research Instruments

Fox (1982) outlines the merit of re-establishing the reliability and validity of any instrument when it is re-used, even if the groups are similar to those for which the tool was originally used (p.269). For this reason, this researcher re-established reliability for each item in relation to the total scale and sub-scales of each instrument by using Cronbach's alpha and the Pearson Product-Moment Correlation coefficient.

Multidimensional Health Locus of Control Scale (MHLC)

A reliability analysis indicated Item #7: "Other people play a big part in whether I stay healthy or become sick", was negatively correlated with Items 2, 3, 5 and 16. As stated, this item seemed ambiguous and appeared to lack clarity for the respondents. Therefore, Item #7 was omitted from the MHLC Scale to improve the strength of the total scale with an alpha coefficient of .87, and a 17-item MHLC Scale was subsequently used in this study.

Attitude Towards Issues of Choice in Childbirth Scale (ATICC)

Reassessment of alpha reliabilities on the Intrapersonal and Extrapersonal Subscales yielded unexpected results. The total 18-item ATICC Scale demonstrated an alpha coefficient of .95 compared to Fullerton's .94. Alpha coefficients on the Intrapersonal Subscale were the same as Fullerton's (.81), however, the Extrapersonal Subscale had a lower but acceptable alpha coefficient (.74) than was obtained by Fullerton.

When using the Pearson Product-Moment Correlation to determine the relationship of the five subscales of the two instruments,

findings showed a remarkably high correlation of .92 between the ATICC Subscales (Table K-6). Moreover, an examination of raw scores revealed polarization of the responses at each end of the scale. A potential explanation which may account for these findings may be attributed to biased responses in which subjects were not discriminating, the small sample size, or the specific sample itself (Wallston, 1987). Furthermore, in the development of a two-dimensional instrument to measure attitudinal dimensions, inherent difficulties may be similar to those experienced with previous instruments which did not discriminate enough to be meaningful.

Although results showed that Attitude was the most discriminating dependent variable, the lack of construct validity of the two ATICC Subscales precluded this researcher from determining whether the attitudes of the subjects reflected an Intrapersonal or Extrapersonal orientation toward issues of choice in childbirth, and the subsequent measurement of the specific differences on these dimensions between the two groups.

Since the ATICC Subscales were highly correlated, this researcher therefore concluded that they measured much the same thing (Nunnally, 1978, p.102), and that the data indicated that the ATICC Scale appeared to be unidimensional. This finding may be related to the original conceptualization of the scales, or it may be that the scales do not discriminate sufficiently for the respondents to be able to differentiate between the Intrapersonal and Extrapersonal dimensions in their responses. One can infer, however, that belief in control

does exist in general or with themselves, with the implicit assumption that little chance is operating (Wallston, 1987).

Several factors must be considered and may account for the high correlation between the Intrapersonal and Extrapersonal Subscales of the ATICC instrument, and for the difference in the findings obtained by Fullerton. First, the theoretical conceptualization of this tool may be faulty. That is, in the development of a situation specific instrument (of attitudes toward issues of choice in childbirth) akin to the MHLC instrument, inherent difficulties may be similar to those experienced with previous instruments which did not discriminate enough to be meaningful. On the other hand, one might speculate that perhaps because attitudes are unique to each individual, it may be that the two dimensions Intrapersonal and Extrapersonal are so intricately related, that it is not possible for a tool to discriminate between these dimensions. In this event, the focus would need to be on attitude itself, in which case an instrument might be developed on a continuum.

Furthermore, in developing an instrument to measure attitudes, perhaps there might have been lack of clarity in differentiating among interests, values and attitudes. Nunnally (1978) sites interests as "preferences for particular activities", values as "preferences for life goals", and attitudes as "feelings about particular social objects, e.g. physical objects, types of people, social institutions, policies" (pp.588-590). Nunnally (1978) states: "the distinguishing characteristic of attitudes from interests and values is that attitudes always concern a particular target or object, whereas

interests and values concern numerous activities --specific activities in measures of interests and very broad categories of activities in measures of values"(p.590). Secondly, the researcher postulates that the biographical characteristics of the Canadian sample may be sufficiently different from the one studied by Fullerton that it could be a factor which influenced the way the subjects responded. Unfortunately, this could not be determined since detailed biographical data comparable to that used in this study was not obtained for the sample studied by Fullerton (1981) for either the development of the ATICC Scale or the actual study (p. 21). Fullerton made the assumption that the samples used for the scale development and the main study did not differ with regard to geographic and socioeconomic characteristics. This assumption is inconsistent with other studies which demonstrate differences in health locus of control in relation to biographical characteristics, and may be a factor contributing to the results obtained by Fullerton.

Subjects in Fullerton's study ranged between 13-40 years in age. Including subjects under 21 years of age may also account for the way subjects responded. This has been addressed in previous studies of developmental skills related to age and education, and is in contravention to the use of the MHLC instrument as stated by Wallston et al. (1978c, p.16). For example, in relation to a 13 year old's education, it would ordinarily be possible to have only completed Grade 7, while grade 8 is the minimum educational level of subjects for use of the MHLC Scale. Furthermore, including 13-year old subjects is inconsistent with the criteria of low-risk prenatal women.

Therefore, age and education could have influenced the way in which they responded. These factors, then, may have contributed to the different results obtained by Fullerton.

Thirdly, there appears to be some inconsistency in Fullerton's (1981) study design related to 'matched pairs'. It was unclear to this researcher as to the true matching of pairs in that the methodology stated there was matching on age, parity and marital status (p.35), while in the recommendations, it was stated variables were 'unmatched' (p.64). Fullerton states "the Pearson Product-Moment Correlation coefficient was computed between attitude scores and health locus of control scores for the matched pairs sample, and for all subjects" (p.50). It is unclear whether the Pearson Product-Moment Correlation coefficient was calculated between all subscale scores for both the MHLC and ATICC Scales. In the development of the ATICC instrument, Fullerton states, however, "to determine whether scores on the attitude scale were 'true expressions of feelings', rather than a response to please the researcher, a Pearson Product-Moment Correlation coefficient was calculated between total scale score and the Strahan and Gerbasi, a shortened version of the Marlowe-Crowne Social Desirability Scale" (Strahan & Gerbasi, 1972). A correlation of .305 at the $<.001$ level of significance was obtained and considered acceptable.

With regard to the construction of scales for attitudes, although Nunnally (1978) states that "items should be evenly divided between positive and negative statements" (p.605), it was identified that items of the ATICC instrument were extremely unbalanced with 16

positive and two negative statements. This factor, acknowledged by Fullerton (1981, p.34), could be one of the weaknesses of the ATICC Scale. This researcher postulates that the unbalanced scale of positively and negatively worded items may be a factor related to the findings in both studies, possibly introducing response bias, as well as contributing to the subsequent high correlations of the subscales when testing for reliability. In Fullerton's revised ATICC Scale, the highest correlation coefficient obtained when testing each item with the total scale score on the Social Desirability Scale was .328, which was considered acceptable for use in that study (Fullerton, 1981, p.28).

Comparison of Hospital and Alternate Birthsite Chooser Groups

Null Hypothesis (Ho). "There is no difference in the population means of the Hospital and Alternate birthsite chooser groups", that is, the parent populations of the two samples are identical.

The Ho of equal means was rejected. Table K-10 clearly illustrates that the Hospital and Alternate birthsite chooser group's mean scores do differ significantly on both the MHLC and ATICC Scales. An Independent t-test also revealed significant differences of mean scores between the groups on all four dependent variables (Table K-9). As stated in Chapter IV, a low scale score indicated a greater Internal orientation, while a high scale score indicated a greater External orientation. The Alternate Group consistently showed a lower mean score on all scales. This clearly suggests that the Alternate Group were more internally oriented and held more marked attitudes about control concerning issues specific to the childbirth experience.

This is further illustrated when plotting Attitude with HLC by group (Figure 1).

Hypothesis 1. "Women choosing an Alternate site for childbirth have a more internal health locus of control orientation than those who choose a Hospital site".

Hypothesis 1 is supported since the IHLC score was shown to be a major discriminator. When measuring all four dependent variables simultaneously using Hotelling's T^2, the Alternate and Hospital Groups were also found to differ significantly. Using the discriminant analysis function, the most discriminating differences were identifed as being the IHLC and Attitude variables. The All Groups Stacked Histogram Canonical Discriminant Function also illustrates two distinct groups on the dimensions of HLC and Attitude (Figure 2).

Figure 1 indicates that all subjects in the Alternate Group fell below a score of 40, while all but two subjects in the Hospital Group lie above the score of 40. A review of the raw data specific to the two hospital subjects who fell below the score of 40 indicated both women were multigravida, had previously delivered in hospital, and were in the same age, educational and ethnic groupings. These factors might explain, in part, why they fell into the Alternate Group on IHLC and Attitude. Having experienced a previous hospital confinement with which they were possibly dissatisfied might account for this anomoly.

Hypothesis 2. "Women choosing an Alternate site for childbirth would have more positive attitudes towards issues of choice in childbirth than those who chose a hospital site."

Hypothesis 2 was not supported. Attitude was found to be the most discriminating variable between groups. However, because of the high correlation between the ATICC Subscales, Intrapersonal and Extrapersonal, this researcher was limited to using the ATICC Scale as a total scale to compare groups. Results are therefore inconclusive, since neither the specific issue of choice in childbirth nor its magnitude could be determined, but only that there was a significant difference in Attitude between groups.

One could speculate, however, given that the Alternate Group was found to be more internal than the Hospital Group, and given an adequate tool to discriminate between positive and negative attitudes, one might also find the Alternate Group to have more positive attitudes towards issues of choice in childbirth. In preliminary testing, using the two subscales (as used by Fullerton), it was noted that the most discriminating variables were PHLC and Extra variables.

Hypothesis 3. "Locus of control orientation is related to attitudes toward issues of choice in childbirth".

Hypothesis 3 was not supported. Again, the limitations imposed by using the ATICC Scale as a total scale to compare groups, precluded the measurement of the separate dimensions of the two groups. Findings are therefore inconclusive related to this hypothesis, and show only that there was a significant difference in the Alternate Group compared to the Hospital Group on Internal locus of control (MHLC Scale) and Attitude (ATICC Scale) toward issues of choice in childbirth.

One could speculate, however, given that the Alternate Group was found to be more internal than the Hospital Group, that one would expect, (given a tool to discriminate between positive and negative attitudes), that one would also find the Alternate Group to have more positive attitudes about control in childbirth. However, it may be that no tool will differentiate between the Intrapersonal and Extrapersonal dimensions, and that it is more important that the focus be on the identification of the attitude itself.

Conclusions Related to the Hypotheses

Null Hypothesis

There was a significant difference of means between the Alternate and Hospital birthsite chooser groups.

Hypothesis 1

The Alternate birthsite chooser group was found to be more internally oriented than the Hospital birthsite chooser group (as measured by the MHLC Scale), and to perceive themselves as the determiner of control of health-related events pertaining to their own person, rather than control being exerted by powerful others or chance.

Hypothesis 2

The Alternate birthsite chooser group was found to hold significantly stronger attitudes towards making choices specific to their childbirth experience than the Hospital birthsite chooser group. However, specific issues related to the childbirth experience could not be determined. That is, attitudes about control are a highly

significant characteristic of the Alternate group, and may account for the site chosen for childbirth.

Hypothesis 3

Findings were inconclusive regarding a relationship between locus of control orientation and attitudes toward issues of choice in childbirth.

Additional Conclusions

The overwhelming response rate of subjects participating in this study clearly showed these women had a keen interest in the topic of choice of site for childbirth. Some women in this geographic locale deliberately chose an Alternate site from Hospital for childbirth. These women were more internally oriented, and had stronger attitudes about issues of personal control specific to childbirth than the Hospital Group. This was consistent with the theoretical framework related to dimensions of locus of control. Because ATICC Subscales were highly correlated and did not discriminate between Intrapersonal and Extrapersonal characteristics for this sample, this researcher was unable to determine the direction, positive or negative, of attitudes for each group, or the particular issues of most concern around childbirth.

The findings of this study were similar to Fullerton's in that they suggest attitudes about issues of choice in childbirth are related to the amount of control that one wishes to exercise over specific health situations. Women in this study did exercise their choice of optional sites for childbirth. It is reasserted that in this Canadian jurisdiction the Hospital was the exclusive site for

childbirth, and no legitimate options for Alternate sites existed. It would then seem on this basis, and in keeping with the findings, that those women who chose an Alternate site did indeed have very strong attitudes and exercised their choice in selecting an Alternate site from Hospital for childbirth in spite of no legitimate option.

Income between groups was found to be significantly different, with the Alternate Group having a lower income. This was clearly a different finding from other studies, and would indicate that income was not a factor in this population that could account for women choosing an Alternate site for birth. In fact, it reaffirms the association of internal orientation and the exercise of strong attitudes of control by the Alternate Group, given that their income was equal to or less than the Hospital Group, and that they had to pay for their care as they did not have insurable services to pay for their care outside the healthcare system. It is therefore suggested that women from both groups cannot be well served by the Hospital setting if care is only oriented to the needs of an externally oriented group.

The close fit of the data to the health locus of control model suggests it has merit for future research in its application to another similar group. Findings from this study provide a beginning for further investigation to determine the specific attitude factors which may be inconsistent with some women's expectations in childbirth related to the current Hospital site and mode of delivery of care. In light of the findings from this study and the on-going controversy

about the site for childbirth among health professionals and consumers, further study of this topic is warranted.

Limitations

The limitations inherent to this study are identified as follows:

1. There was a lack of control of the variables age, ethnicity, education, and income due to the retrospective design, and a lack of random assignment of subjects to the two groups. To determine the potential effects of confounding variables, at least in part, a series of preliminary tests were conducted to assure the two groups did not differ significantly on the variables of age, ethnicity, education and income. If a significant difference had been found, an attempt would have been made to control for the influence of such variables by using covariate models of analysis.
2. The failure of the ATICC Subscales to discriminate between Intrapersonal and Extrapersonal control imposed limitations on this study. Therefore, it was only possible to identify that the Alternate Group showed a marked difference in their attitudes toward control in childbirth compared with the Hospital Group.
3. The results of this study must be interpreted with care because it was not possible to match groups on all biographical variables.
4. These results can only be generalized to populations with similar backgrounds to those women who participated in this study.

Recommendations

It is recommended that:

1. A follow-up study be conducted on a wider Canadian population. This is necessary in order to determine what the specific issues/practices are related to womens' expectations about personal control in childbirth. When issues have been identified, health professionals and agencies could take steps to implement changes in practices and policies consistent with consumer expectations in childbirth.
2. In conducting a follow-up study, it is suggested that:
    1) the MHLC Scale be retested for reliability;
    2) consideration be given to a thorough review of the theoretical basis upon which the ATICC Scale was originally developed to clearly delineate a two-dimensional instrument;
    3) the ATICC Scale be refined or redeveloped, and retested to demonstrate reliability and construct validity using a similar Canadian sample;
    4) the Extrapersonal and Intrapersonal subscales be reviewed and revised so the scale is balanced in terms of positively and negatively worded items.

Refinement of the Attitude Scale could have potential value for health professionals as a useful screening tool for use among prenatal populations. This tool could also assist in determining factors in the healthcare system which may or may not be consistent with the

expectations of women regarding the environment for their childbirth experiences.

Implications for Nursing

1. If refined, the ATICC Scale could be a useful screening device for use by nurses in their assessment of needs of childbearing women in all phases of care during pregnancy and childbirth.
2. Identifying women's attitudes towards issues of choice in childbirth would provide healthcare professionals with information to allow them to adapt their approaches to care or the hospital environment in keeping with women's expectations. In the future, this information could also be useful in healthcare planning for designing alternative modes of healthcare delivery to meet the needs of a variety of childbearing women, and at the same time contain costs.
3. The educational preparation and attitudes of caregivers about the care needed by women in childbirth require review. Nurses caring for mothers and the neonate require educational preparation related to health beliefs and attitudes of childbearing women. In order to be able to provide adequate support consistent with the expectations women have about both their physical and psycho-social environment, nurses must understand that expectations of women in childbirth do differ. Further, there is a need for nurses to be flexible in their practice, thereby providing women with a support structure both for those who desire to surrender control and decision-making during childbirth, vis à vis providing freedom to those women who wish to maintain personal control.

4. The use of a tool to identify issues of choice in childbirth has potential merit in that, consistent with the tenets of health promotion (Epp, 1986), the focus of care would be participation of clients in their care, and in the promotion of selfcare.

References

Adamson, C. D., & Gare, J. (1980). Home or hospital births. Journal of American Medical Association, 243, 1732-1736.

Ajzen, I., & Fishbein, M. (1970). The prediction of behavior from attitudinal and normative variables. Journal of Experimental Social Psychology, 6, 466-487.

Alberta Medical Association. (1987). Summary of infants not born in hospital 1978-1984. Alberta: Author.

Anderson, S., Bauwens, E., & Warner, E. (1978). The choice of home births in a metropolitan county in Arizona. Journal of Obstetrics, Gynecologic, and Neonatal Nursing, 7(2), 41-45.

Archer, R. P., & Stein, D. K. (1978). Personal control expectancies and state anxiety. Psychological Reports, 42, 551-558.

Averill, J. (1973). Personal control over aversive stimuli and its relationship to stress. Psychological Bulletin, 80, 286-303.

Bauwens, C. C., & Anderson, S. (1978). Home births: A reaction to hospital environmental stressors. In Bauwens, C. C. (Ed.). The Anthropology of Health. St. Louis: C. V. Mosby.

Bernardini, J. Y., Maloni, J. A., & Stegman, C. E. (1983). Neuromuscular control of childbirth-prepared women during the first stage of labor. Journal of Obstetrics, Gynecologic and Neonatal Nursing, 12(2), 105-111.

Blankfield, A., & Wood, C. (1971). A profile of the obstetric patient. Medical Journal of Australia, 1, 1320-1325.

Blignault, I., & Brown, L. B. (1979). Locus of control and contraceptive knowledge, attitudes and practice. British Journal of Medical Psychology, 52, 339-345.

Boyle, E. S., & Sielski, K. A. (1981). Correlates of health locus of control in an older, disabled group. Journal of Psychology, 109, 87-91.

Brackbill, Y., Woodward, L., McManus, K. A., & Ireson, M. J. (1984). Characteristics related to drug consumption of women choosing between nontraditional birth alternatives-a comparison. Journal of Nurse-Midwifery, 29(3), 177-185.

Brewin, C., & Bradley, C. (1982). Perceived control and the experience of childbirth. British Journal of Clinical Psychology, 21(Part 1), 263-269.

Butani, P., & Hodnett, E. (1980). Mothers' perceptions of their labor experiences. Maternal Child Nursing Journal, 9(2), 72-82.

Cameron, J., Chase, K. S., & O'Neal, S. (1979). Home births in Salt Lake County, Utah. American Journal of Public Health, 69(7), 716-717.

Canadian Nurses Association. (1984). Position paper on specialist roles in maternal-infant nursing. Ottawa: Author.

Chute, G. E. (1985). Expectation and experience in alternative and conventional birth. Journal of Obstetrics, Gynecology and Neonatal Nursing, 1, 61-67.

Conklin, M., & Simmons, R. (1979). Planned home childbirth: A reaction to hospital environmental stressors. In Bauwens, E. C. (Ed.). The Anthropology of Health. St. Louis: C. V. Mosby.

Crandall, J. E., & Lehman, R. E. (1977). Relationship of stressful life events to social interest, locus of control, and psychological adjustment. Journal of Consulting and Clinical Psychology, 45(6), 1208.

Davenport-Slack, B., & Boylan, C. H. (1974). Psychological correlates of childbirth pain. Psychosomatic Medicine, 36(3), 215-223.

DeVito, A. J., Bodganowicz, J., & Reznikoff, M. (1982). Actual and intended health-related information seeking and health locus of control. Journal of Personality Assessment, 46(1), 63-69.

DuCette, J., & Wolk, S. (1973). Cognitive and motivational correlates of generalized expectancies for control. Journal of Personality and Social Psychology, 26, 420-426.

Elkins, V. H. (1983). The birth report. Toronto: Lester & Orpen Dennys.

Epp, J. (1986). Achieving health for all: A framework for health promotion. Ottawa: Health and Welfare Canada.

Felton, G. S., & Segelman, F. B. (1978). Lamaze childbirth training and changes in belief about personal control. Birth and the Family Journal, 5(3), 141-150.

Field, P. A. (1985). Parents' reactions to maternity care. Midwifery, 1, 37-46.

Field, P. A., Campbell, I. E., & Buchan, J. (1985). Parent satisfaction with maternity care: Final report to the University of Alberta. Unpublished paper.

Fox, D. L. (1982). Fundamentals of research in nursing. East Norwalk: Appleton-Century-Crofts.

Fullerton, J. D. (1981). The choice of in or out-of-hospital birth environment as related to selected issues of control. Doctoral dissertation, Temple University, Pennsylvania.

Germer, P., & Price, J. H. (1981). Health locus of control of health fair participants. Psychological Reports, 49, 107-112.

Gierszewski, S. A. (1983). The relationship of weight loss, locus of control, and social support. Nursing Research, 32(1), 43-47.

Graham, L., & Conley, E. (1971). Evaluation of anxiety and fear in adult surgical patients. Nursing Research, 20, 113-122.

Grimm, E. (1967). Psychological and social factors in pregnancy, delivery and outcome. In S. A. Richardson & A. F. Guttmacher (Eds.). Childbearing-its social and psychological aspects. Baltimore: Williams & Wilkins.

Hall, E. M. (1980). Canada's national-provincial health program for the 1980's: A commitment for renewal. Ottawa: Health and Welfare Canada.

Hazell, L. D. (1975). A study of 300 elective home births. Birth and the Family Journal, 2(1), 11-18.

Highly, B., & Mercer, R. (1978). Safeguarding the laboring woman's sense of control. Maternal Child Nursing Journal, 3, 39-41.

Hodnett, E. (1982). Patient control during labor: Effects of two types of fetal monitors. Journal of Obstetrics, Gynecologic and Neonatal Nursing, 11(2), 94-99.

Hodnett, E. D. (1983). The effects of person environment interactions on selected childbirth outcomes of women having home and hospital births. Doctoral dissertation, University of Toronto.

Hollander, E. P. (1971). Principles and methods of social psychology (2nd ed.). Toronto: Oxford University Press.

Hosford, M. (1977). Implementing a medically sound childbearing center: Problems and solution. In 21st Century Obstetrics Now, Proceedings of the 1977 Conference of the National Association of Parents and Professionals for Safe Alternatives in Childbirth, Vol. II, NAPSAC Publications.

Houston, B. K. (1972). Control over stress, locus of control and response to stress. Journal of Personality and Social Psychology, 21, 249-255.

Hutner, N. L., & Locke, S. E. (1984). Health locus of control: A potential moderator variable for the relationship between life stress and psychopathology. Psychotherapy and Psychosomatics, 41, 186-194.

Huttel, F. A., Mitchell, I., Fischer, W. M., & Meyer, A. E. (1972). A quantitative evaluation of psychoprophylaxis in childbirth. Journal of Psychosomatic Research, 16, 81-92.

Igoe, J. (1980). Project health PACT in action. American Journal of Nursing, 80(11), 2016-2021.

Jaccard, J. (1975). A theoretical analysis of selected factors important to health education strategies. Health Education Monographs, 3, 152-167.

Joe, V. (1971). Review of the internal-external control construct as a personality variable. Psychological Reports, 28, 619-640. (Monographs Suppl. 1 - V28).

Kilmann, P. R., Laval, R., & Wanlass, R. L. (1978). Locus of control and perceived adjustment to life events. Journal of Clinical Psychology, 34(2), 512-513.

Kitzinger, S., & Davis, J. A. (Eds.). (1978). The place of birth. Oxford: Oxford University Press.

Krampen, G. (1980). Generalized expectations of alcoholics: Multidimensional locus of control, hopelessness, and machiavellianism. Journal of Clinical Psychology, 36(4), 1022-1023.

Krishner, H. P., Darley, S. A., & Darley, J. M. (1973). Fear-provoking recommendation, intentions to take preventive actions. Journal of Personality and Social Psychology, 26, 301-308.

Lamontagne, L. L. (1984). Children's locus of control beliefs as predictors of preoperative coping behavior. Nursing Research, 33(2), 76-85.

Lefcourt, H. M. (1982). Locus of control: Current trends in theory and research (2nd ed.). NJ: Lawrence Erlbaum.

Levenson, H. (1973a). Internality, powerful others and chance scale. Journal of Consulting and Clinical Psychology, 41, 397-404.

Levenson, H. (1973b). Multidimensional locus of control in psychiatric patients. Journal of Consulting and Clinical Psychology, 41(3), 397-404.

Lowery, B., Jacobsen, B., & Keane, A. (1975). Relationship of locus of control to preoperative anxiety. Psychological Reports, 37, 1115-1121.

Lowery, B. J., & DuCette, J. P. (1976). Disease-related learning and disease control in diabetics as a function of locus of control. Nursing Research, 25, 358-362.

Lundy, J. R. (1972). Some personality correlates of contraceptive use among unmarried female college students. Journal of Psychology, 80, 9-14.

McCreary, C., & Turner, J. (1984). Locus of control, repression-sensitization, and psychological disorder in chronic pain patients. Journal of Clinical Psychology, 40(4), 897-901.

Mead, J., & Newton, N. (1967). Cultural patterning of perinatal behavior. In S. A. Richardson & A. F. Guttmacher (Eds.), Childbearing-its social and psychological aspects. Baltimore: Williams & Wilkins.

Mischel, W. (1971). Introduction to personality. New York: Holt, Rinehart and Winston.

Moore, D. (1983). Prepared childbirth and marital satisfaction during the antepartum and postpartum periods. Nursing Research, 32(2), 73-79.

Naditch, M. P., Gargan, M. A., & Michael, L. B. (1975). Denial, anxiety, locus of control, and the discrepancy between aspirations and achievements as components of depression. Journal of Abnormal Psychology, 84, 1-9.

Naisbitt, J. (1984). Megatrends: Ten new directions transforming our lives. New York: Warner Books.

Nannis, E. D., Susman, E. J., Strope, B. E., Woodruff, P. J., Hersh, S. P., Levine, A. S., & Pizzo, P. A. (1982). Correlates of control in pediatric cancer patients and their families. Journal of Pediatric Psychology, 7(1), 75-84.

Nunnally, D. M., & Aguiar, M. B. (1974). Patients' evaluation of their prenatal and delivery care. Nursing Research, 23(6), 469-474.

Nunnally, J. (1978). Psychometric theory. New York: McGraw-Hill.

Nunnally, D. M., & Aguiar, M. B. (1974). Patients' evaluation of their prenatal and delivery care. Nursing Research, 23(6), 469-474.

O'Connell, J. K., & Price, J. H. (1982). Health locus of control of physical-fitness program participants. Perceptual and Motor Skills, 55 (Part 1), 925-926.

O'Connell, M. L. (1983). Locus of control specific to pregnancy. Journal of Obstetrics, Gynecologic and Neonatal Nursing, 12(3), 161-164.

Oliver, W. (1972). Childbirth expectancies and experiences as a function of locus of control and Lamaze training. Dissertation, Ohio State University.

Patton, J. F., & Freitag, C. B. (1977). Correlational study of death anxiety, general anxiety and locus of control. Psychological Reports, 40, 51-54.

Pedhazur, E. J. (1982). Multiple regression in behavioral research: Explanation and prediction (2nd ed.). New York: Holt, Rinehart and Winston.

Pohl, J. M., & Fuller, S. S. (1980). Perceived choice, social interaction and dimensions of morale of residents in a home for the aged. Research in Nursing and Health, 3(4), 147-157.

Polit, D. F., & Hungler, B. P. (1983). Nursing research: Principles and methods (2nd ed.). Toronto: J. B. Lippincott.

Rising, S. S. (1975). A consumer-oriented nurse-midwifery service. Nursing Clinics of North America, 10(2), 251-262.

Rosengren, W. R. (1961). Some social psychological aspects of delivery room difficulties. The Journal of Nervous and Mental Disease, 132(6), 515-521.

Rosenstock, I. M. (1974). The health belief model and preventive health behavior. Health Education Monograph, 2(4), 328-335.

Rotter, J. B. (1954). Social learning and clinical psychology. Englewood Cliffs, NJ: Prentice-Hall.

Rotter, J. B. (1966). Generalized expectancy for internal versus external control of reinforcement. Psychological Monographs, 80, (1. Whole No. 609), 1-28.

Rotter, J. B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. Journal of Consulting and Clinical Psychology, 43, 56-67.

Rotter, J. B., Chance, J. B., Phares, E. J. (1972). Applications of a social learning theory of personality. New York: Holt, Rinehart and Winston.

Rotter, J. B., & Mulry, R. (1965). Internal versus external control of reinforcement and decision time. Journal of Personality and Social Psychology, 2, 598-604.

Rotter, J. B., Seeman, M., & Liverant, S. (1962). Internal versus external control of reinforcement: A major variable in behavior theory. In F. F. Washburne (Ed.). Decisions, values and groups: Vol. 2. (pp. 473-516). New York: Pergamon Press.

Saltzer, E. B. (1978). Locus of control and the intention to lose weight. Health Education Monographs, 6(2), 118-128.

Scaer, R., & Korte, D. (1978). MOM survey: Maternity options for mothers-what do women want in maternity care? Birth and the Family Journal, 5(1), 20-26.

Schmitt, F., & Wooldridge, P. (1973). Psychological preparation of surgical patients. Nursing Research, 22, 108-116.

Schroeder, M. A. (1985). Development and testing of a scale to measure locus of control prior to and following childbirth. Maternal-Child Nursing Journal, 14(2), 111-121.

Scott-Palmer, J., & Skevington, S. M. (1981). Pain during childbirth and menstruation: A study of locus of control. Journal of Psychosomatic Research, 25(3), 151-155.

Seeman, M., & Evans, J. W. (1962). Alienation and learning in a hospital setting. American Sociological Review, 27, 772-783.

Seeman, M., & Seeman, T. E. (1983). Health behavior and personal autonomy: A longitudinal study on the sense of control in illness. Journal of Health and Social Behavior, 24(2), 144-160.

Segal, S., & DuCette, J. (1973). Locus of control and premarital high school pregnancy. Psychological Reports, 33, 887-890.

Sheldon, D. (1980). Effects of the health activities project on students' attitudes toward health. Health Education Monographs, 11(2), 36-37.

Shipley, R. H. (1981). Maintenance of smoking cessation: Effect of follow-up letters, smoking motivation, muscle tension, and health locus of control. Journal of Consulting and Clinical Psychology, 49(6), 982-984.

Simkin, R. J. (1981). Alternative birthing. Canadian Family Physician, 27, 1007-1010.

Statistics Canada (February 1981). Standard occupational classification 1980. Ottawa: Author.

Statistics Canada (1986). Statistics Canada Ethnic Groupings. Ottawa: Author.

Steele, J. L., & McBroom, W. H. (1972). Conceptual and empirical dimensions of health behavior. Journal of Health and Social Behavior, 13, 382-392.

Stewart, D. & Stewart, L. (Eds.). (1977). 21st century obstetrics now! (2nd ed.). Chapel Hill: NAPSAC.

Strahan, R., & Gerbasi, K. (1972). Short, homogenous version of the Marlowe-Crowne Social Desirability Scale. Journal of Clinical Psychology, 28, 191-193.

Strickland, B. R. (1978). Internal-external expectancies and health-related behaviors. Journal of Consulting and Clinical Psychology, 46(6), 1192-1211.

Tabachnick, B. G., & Fidell, L. S. (1983). Using multivariate statistics. New York: Harper & Row.

Tanzer, D., & Block, J. L. (1972). Why natural childbirth. Garden City, NY: Doubleday.

Taylor, S. E., Lichtman, R. R., & Wood, J. V. (1984). Attributions, beliefs about control, and adjustment to breast cancer. Journal of Personality and Social Psychology, 46(3), 489-502.

Thompson, S. C. (1981). Will it hurt less if I can control it? A complex answer to a simple question. Psychological Bulletin, 90, 89-101.

University of Alberta. (1987). Edmonton area study. Population Research Laboratory, Department of Sociology, Edmonton: Author.

Wallston, K. A. (personal communication, November, 1987).

Wallston, B. S., Wallston, K. A., Kaplan, G. D., & Maides, S. A. (1976a). Development and validation of the health locus of control (HLC) scale. Journal of Consulting and Clinical Psychology, 44(4), 580-585.

Wallston, K. A., Maides, S., & Wallston, B. S. (1976b). Health-related information seeking as a function of health-related locus of control and health value. Journal of Research in Personality, 10, 215-222.

Wallston, K. A., Wallston, B. S., & DeVellis, R. (1978c). Development of the multidimensional health locus of control (MHLC) scales. Health Education Monographs, 6(2), 160-170.

Willmuth, L. R. (1975). Prepared childbirth and the concept of control. Journal of Obstetrics, Gynecologic and Neonatal Nursing, 4(5), 38-41.

Willmuth, R., Weaver, L., & Borenstein, J. (1978). Satisfaction with prepared childbirth and locus of control. Journal of Obstetrics, Gynecologic and Neonatal Nursing, 7(3), 33-37.

Windwer, C. (1977). Relationship among prospective parents' locus of control, social desirability, and choice of psycholprophylaxis. Nursing Research, 26(2), 97-99.

Youkilis, H. D., & Bootzin, R. R. (1979). The relationship between adjustment and perceived locus of control for female psychiatric inpatients. Journal of Genetic Psychology, 135, 297-299.

Ziegler, M., & Reid, D. W. (1979). Correlates of locus of desired control in two samples of elderly persons: Community residents and hospitalized patients. Journal of Consulting and Clinical Psychology, 47(5), 977-979.

Appendix A

Multidimensional Health Locus of Control Scale

(Form A)

This is a questionnaire designed to determine the way in which different people view certain important health-related issues. Each item is a belief statement with which you may agree or disagree. Beside each statement is a scale which ranges from strongly disagree (1) to strongly agree (6). For each item we would like you to circle the number that represents the extent to which you disagree or agree with the statement. The more strongly you agree with a statement, then the higher will be the number you circle. The more strongly you disagree with a statement, then the lower will be the number you circle. Please make sure that you answer every item and that you circle only one number per item. This is a measure of your personal beliefs; obviously, there are no right or wrong answers.

Please answer these items carefully, but do not spend too much time on any one item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe or how you think we want you to believe.

		Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1.	If I get sick, it is my own behavior which determines how soon I get well again.	1	2	3	4	5	6
2.	No matter what I do, if I am going to get sick, I will get sick.	1	2	3	4	5	6
3.	Having regular contact with my physician is the best way for me to avoid illness.	1	2	3	4	5	6
4.	Most things that affect my health happen to me by accident.	1	2	3	4	5	6
5.	Whenever I don't feel well, I should consult a medically trained professional.	1	2	3	4	5	6
6.	I am in control of my health.	1	2	3	4	5	6
7.	My family has a lot to do with my becoming sick or staying healthy.	1	2	3	4	5	6
8.	When I get sick, I am to blame.	1	2	3	4	5	6
9.	Luck plays a big part in determining how soon I will recover from an illness.	1	2	3	4	5	6
10.	Health professionals control my health.	1	2	3	4	5	6
11.	My good health is largely a matter of good fortune.	1	2	3	4	5	6
12.	The main thing which affects my health is what I myself do.	1	2	3	4	5	6
13.	If I take care of myself, I can avoid illness.	1	2	3	4	5	6
14.	When I recover from an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.	1	2	3	4	5	6
15.	No matter what I do, I'm likely to get sick.	1	2	3	4	5	6
16.	If it's meant to be, I will stay healthy.	1	2	3	4	5	6
17.	If I take the right actions, I can stay healthy.	1	2	3	4	5	6
18.	Regarding my health, I can only do what my doctor tells me to do.	1	2	3	4	5	6

Reprinted with permission of K.A. Wallston.

Appendix A

Multidimensional Health Locus of Control Scale

(Form B)

This is a questionnaire designed to determine the way in which different people view certain important health-related issues. Each item is a belief statement with which you may agree or disagree. Beside each statement is a scale which ranges from strongly disagree (1) to strongly agree (6). For each item we would like you to circle the number that represents the extent to which you disagree or agree with the statement. The more strongly you agree with a statement, then the higher will be the number you circle. The more strongly you disagree with a statement, then the lower will be the number you circle. Please make sure that you answer every item and that you circle only one number per item. This is a measure of your personal beliefs; obviously, there are no right or wrong answers.

Please answer these items carefully, but do not spend too much time on any one item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe or how you think we want you to believe.

		Strongly Disagree	Moderately Disagree	Slightly Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1.	If I become sick, I have the power to make myself well again.	1	2	3	4	5	6
2.	Often I feel that no matter what I do, if I am going to get sick, I will get sick.	1	2	3	4	5	6
3.	If I see an excellent doctor regularly, I am less likely to have health problems.	1	2	3	4	5	6
4.	It seems that my health is greatly influenced by accidental happenings.	1	2	3	4	5	6
5.	I can only maintain my health by consulting health professionals.	1	2	3	4	5	6
6.	I am directly responsible for my health.	1	2	3	4	5	6
7.	Other people play a big part in whether I stay healthy or become sick.	1	2	3	4	5	6
8.	Whatever goes wrong with my health is my own fault.	1	2	3	4	5	6
9.	When I am sick, I just have to let nature run its course.	1	2	3	4	5	6
10.	Health professionals keep me healthy.	1	2	3	4	5	6
11.	When I stay healthy, I'm just plain lucky.	1	2	3	4	5	6
12.	My physical well-being depends on how well I take care of myself.	1	2	3	4	5	6
13.	When I feel ill, I know it is because I have not been taking care of myself properly.	1	2	3	4	5	6
14.	The type of care I receive from other people is what is responsible for how well I recover from an illness.	1	2	3	4	5	6
15.	Even when I take care of myself, it's easy to get sick.	1	2	3	4	5	6
16.	When I become ill, it's a matter of fate.	1	2	3	4	5	6
17.	I can pretty much stay healthy by taking good care of myself.	1	2	3	4	5	6
18.	Following doctor's orders to the letter is the best way for me to stay healthy.	1	2	3	4	5	6

Reprinted with permission of K.A. Wallston.

Appendix A

Multidimensional Health Locus of Control Scale (Form A)

Item	MHLC Internal
1.	If I get sick, it is my own behavior which determines how soon I get well again.
6.	I am in control of my health.
8.	When I get sick, I am to blame.
12.	The main thing which affects my health is what I myself do.
13.	If I take care of myself, I can avoid illness.
17.	If I take the right actions, I can stay healthy.

	MHLC Chance
2.	No matter what I do, if I am going to get sick, I will get sick.
4.	Most things that affect my health happen to me by accident.
9.	Luck plays a big part in determin;ing how soon I will recover from an illness.
11.	My good health is largely a matter of good fortune.
15.	No matter what I do, I'm likely to get sick.
16.	If it's meant to be, I will stay healthy.

	MHLC Powerful Others
3.	Having regular contact with my physician is the best way for me to avoid illness.
5.	Whenever I don't feel well, I should consult a medically trained professional.
7.	My family has a lot to do with my becoming sick or staying healthy.**
10.	Health professionals control my health.
14.	When I recover from an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.
18.	Regarding my health, I can only do what my doctor tells me to do.

**Deleted from the final analysis due to negative correlation with items 2, 3, 5 and 16.

Reprinted with permission of K.A. Wallston.

Appendix B

Multidimensional Health Locus of Control Scoring Scale

Internal Health Locus of Control Subscale *

Items: 1 6 8 12 13 17

Strongly Disagree = 6
Disagree = 5
Tend to Disagree = 4
Tend to Agree = 3
Agree = 2
Strongly Agree = 1

Chance Health Locus of Control Subscale

Items: 2 4 9 11 15 16, and

Powerful Others Health Locus of Control Subscale

Items: 3 5 7 10 14 18

Strongly Disagree = 1
Disagree = 2
Tend to Disagree = 3
Tend to Agree = 4
Agree = 5
Strongly Agree = 6

---

* Items were reversed on the IHLC subscale for consistency that all subscales would be in the negative direction, therefore low scores on the IHLC subscale, would score high on both PHLC and CHLC subscales. The score on each subscale is the sum of the values circled for each item in that subscale.

Reprinted with permission of K.A. Wallston

Appendix C

Multidimensional Health Locus of Control Questionnaire

(Form A)

INSTRUCTIONS: This questionnaire contains statements concerning health and illness. Each statement is followed by a checklist on which you can express how you feel about the statement. Read the statement and then mark the point on the checklist which is closest to how you really feel about the statement. There are no right or wrong answers. What you really feel is the important thing.

1. If I get sick, it is my own behavior which determines how soon I get well again.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

2. No matter what I do, if I am going to get sick, I will get sick.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

3. Having regular contact with my physician is the best way for me to avoid illness.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

4. Most things that affect my health happen to me by accident.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

5. Whenever I don't feel well, I should consult a medically trained professional.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

6. I am in control of my health.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

7. My family has a lot to do with my becoming sick or staying healthy.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

8. When I get sick I am to blame.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

9. Luck plays a big part in determining how soon I will recover from an illness.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

10. Health professionals control my health.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

11. My good health is largely a matter of good fortune.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

12. The main thing which affects my health is what I myself do.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

13. If I take care of myself, I can avoid illness.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

14. When I recover from an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

15. No matter what I do, I'm likely to get sick.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

16. If it's meant to be, I will stay healthy.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

17. If I take the right actions, I can stay healthy.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

18. Regarding my health, I can only do what my doctor tells me to do.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

Adapted with permission of K.A. Wallston.

Appendix D

Attitude Toward Issues of Choice in Childbirth Scale

INTRA Subscale (Intrapersonal)

Item

2. It's best that the laboring woman let the Doctor/nurse-midwife make most decisions for her.
3. It's best for all women to have an injection right after birth to help the uterus to "firm".
6. Until a mother's milk comes in, it's best to give the baby some formula when he/she is hungry.
8. Because they know the most about it, the Doctor or nurse-midwife should decide what kind and how much medicine to give to the woman ;in labor.
9. Most women probably don't really know enough about labor and delivery to be able to make the best decisions for themselves and for their babies.
10. It's better that women not be permitted to have anything to eat or to drink while th;ey are in labor.
11. It's probably best that all mothers h;ave a fetal monitor machine used during their labors
16. If you have had a C-section it's best that you have all other babies that way.
17. Right after birth, before mom holds the baby, baby should be wiped dry and wrapped in a blanket.
18. The back-lying position is probably the best one for delivery, although some women wish to do it squatting or on their sides.

EXTRA Subscale (Extrapersonal)

Item

1. Women should deliver on a delivery table because it makes the Doctor/nurse-midwife's job easier.
4. Most new mothers need extra rest, so it's best for all of them to stay in a hospital for a few days.
5. It's best that women not be allowed to leave a hospital or birth room soon after birth because they really can't care for self and baby well enough.
7. Babies should be cared for right after birth in nurseries, where they can get the very close attention that they need.
12. Children and other family or friends (except the father) should not be present at a birth.
13. It's always best to stay in bed when you are in labor.
14. The hospital is the best place for everyone to deliver, because it's the safest place.
15. It's best to have all babies delivered by a Doctor, because birth is so risky.

Reprinted with permission of J.T. Fullerton

Appendix E

Attitude Toward Issues of Choice in Childbirth Scoring Scale

All items are scored in the direction of the negative attitude for both subscales.

Strongly Disagree = 1
Disagree = 2
Tend to Disagree = 3
Tend to Agree = 4
Agree = 5
Strongly Agree = 6

Subjects will more often reject the statement if they hold more positive attitudes toward making a choice (having control) of the situation-specific attitude item and lower scores would be obtained. Those who hold more negative attitudes or prefer less choice (less control) of the situation-specific attitude would more often accept the statements and higher scores would be obtained.

Reprinted with permission of J.T. Fullerton

Appendix F

Attitude Toward Issues of Choice in Childbirth Questionnaire

INSTRUCTIONS: This questionnaire contains statements about issues of childbirth. Each statement is followed by a checklist on which you can express how you feel about the statement. Read the statement and then mark the point on the checklist which is closest to how you really feel about the statement. There are no right or wrong answers. What you really feel is the important thing.

1. Women should deliver on a delivery table because it makes the Doctor/nurse-midwife's job easier.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

2. It's best that the laboring woman let the Doctor/nurse-midwife make most decisions for her.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

3. It's best for all women to have an injection right after birth to help the uterus to "firm".

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

4. Most new mothers need extra rest, so it's best for all of them to stay in a hospital for a few days.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

5. It's best that women not be allowed to leave a hospital or birth room soon after birth because they can't care for self or baby well enough.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

6. Until a mother's milk comes in, it's best to give the baby some formula when he/she is hungry.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

7. Babies should be cared for right after birth in nurseries, where they can get the very close attention that they need.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

8. Because they know the most about it, the Doctor or nurse-midwife should decide what kind and how much medicine to give to the woman in labor.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

9. Most women probably don't really know enough about labor and delivery to be able to make the best decisions for themselves and for their babies.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

10. It's better that women not be permitted to have anything to eat or to drink while they are in labor.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

11. It's probably best that all mothers have a fetal monitor machine used during their labors.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

12. Children and other family or friends (except the father) should not be present at a birth.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

13. It's always best to stay in bed when you are in labor.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

14. The hospital is the best place for everyone to deliver, because it is the safest place.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

15. It's best to have all babies delivered by a Doctor, because birth is so risky.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

16. If you have had a C-section it's best that you have all other children that way.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

17. Right after birth, before Mom holds the baby, baby should be wiped dry and wrapped in a blanket.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

18. The back-lying position is probably the best one for delivery, although some women wish to do it squatting, or on their sides.

Strongly Disagree	Disagree	Tend to Disagree	Tend to Agree	Agree	Strongly Agree

Reprinted with permission of J.T. Fullerton.

Appendix G
Antepartum Risk Scoring Form

PART I SCORE	PRE-PREGNANCY DATA
1	Age ≤ 17 at delivery
2	Age ≥ 35 at delivery
1	Obesity (≥ 91 Kg)
1	Height (≤ 152 cm)
1	Smoker-anytime during pregnancy
	DIABETES
1	Controlled by diet only
3	Insulin used
3	Retinopathy documented
	HEART DISEASE
1	Asymptomatic (no affect on daily living)
3	Symptomatic (affects daily living)
	RENAL DISEASE
1	Normal function
2	Serum Creatinine ≥ 80 umol/L
	HYPERTENSION
2	140/90 or greater
3	Hypertensive Drugs
1	OTHER medical disorders eg. epilepsy, severe asthma, lupus Crohn's disease

PART II SCORE	PAST OBSTETRICAL HISTORY Note: Patient receives score only ONCE regardless of the number of times the risk factor has occurred.
3	Neonatal death or stillbirth
1	Abortion between 12 to 20 week and under 500 grams birth weight
1	Delivery at 20-37 weeks
2	Cesarean section
1	Small for dates (refer to Table I)
1	Large for dates (refer to Table I)
1	Rh iso imm unaffected infant
3	affected infant (direct Coombs positive at birth)
1	Major cong. anomaly eg. Downs, heart defects, diaphragmatic hernia CNS defects, etc.

PART III SCORE	PROBLEMS IN CURRENT PREGNANCY	1st Visit STAGE A	36 Wk STAGE B	L & D Assessment STAGE C
2	Diagnosis of large for dates			
3	Diagnosis of small for dates			
2	Polyhydramnios or oligohydramnios			
3	Multiple pregnancy			
3	Malpresentations			
2	Membranes ruptured before 37 weeks			
1	Bleeding 0-20 weeks			
3	Bleeding 20-40 Weeks			
2	Pregnancy Induced Hypertension			
1	Proteinuria ≥ 1+			
1	Gestational diabetes documented			
3	Blood antibodies (Rh, Anti C, Anti K, etc)			
1	Anaemia (≤ 100 g per L)			
1	Pregnancy > 42 weeks			
1	Poor weight gain (26-36 weeks < 1/2 Kg/ week) or weight loss			

Total Score = ____ Low Risk = 1-≤3, High Risk = 4-6, Extreme Risk = ≥7.
(Scoring adapted for this study)

Alberta Medical Association (1986). Alberta antepartum risk scoring. Edmonton: Southern Alberta Perinatal Education Program.

Appendix H

Informed Consent

The University of Alberta
Faculty of Nursing

Project Title: The Choice of Site for Childbirth
as Related to Selected Issues of Control

Investigator: Marg Thiessen, R.N., B.Sc.N. (Graduate Student)
Masters in Nursing Program
5207 - 39A Ave., Edmonton, Alberta
Telephone: 463-5837 (Home)
426-0160 (Office)

Thesis Advisor: Dr. Peggy Anne Field
Faculty of Nursing
University of Alberta
Telephone: 432-6248 (Office)

The purpose of this research project is to study whether women who choose to deliver their babies outside of hospital differ in their attitudes about personal control and issues related to choices in childbirth, from women who choose to deliver their babies in hospital.

I understand that participation in this study entails completing a consent form, data sheet and two questionnaires which involves about 30 minutes of my time; that I will complete these in my own home within a two-week period and return them to the researcher in the self-addressed, stamped envelope.

I understand that the benefits of this study will not be immediate for myself during this pregnancy, but through my participation benefits may arise from the findings which may enhance women's future childbirth experiences.

I hereby give my permission for written records to be kept by the nurse researcher until the project is completed.

I fully understand that:

1. there will be no health risk to me or my family resulting from participation or non-participation,

2. I may withdraw or terminate my participation in this study at any time, and this action will in no way jeopardize my medical or nursing care,

3. All personal information I provide will be held in confidence, and data will be secured in a locked cabinet during the project, and destroyed upon its completion.

4. Findings from the study may be published and available to other health professionals; but I will not be named or identified in any way in the study;

5. Coding will be used for the purpose of assisting with statistical analysis,

6. Results of this study will be made available to me if I wish, and,

7. I will assume no costs related to this study.

I have been given the opportunity to ask whatever questions I wish, and all have been answered to my satisfaction.

_____ _____

Date Signature

_____

Witness

7/86
MT

Appendix I

Letter of Introduction to Parent

Marg Thiessen, M.N. Candidate
5207 - 39 A Avenue
Edmonton, Alberta
Telephone 463-5837 (Home)
426-0160 (Office)

Dr. P. A. Field, Advisor
Faculty of Nursing
University of Alberta
Edmonton, Alberta
Telephone 432-6248 (Office)

Dear Parent:

I, Margaret Thiessen, am a registered nurse and a candidate for a Masters in Nursing Degree at the University of Alberta, Edmonton. Currently, I am conducting a research study under the advisement of Dr. Peggy Anne Field, and I wish to invite you to participate in this study. The purpose of this research project is to study whether women who choose to deliver their babies in hospital differ in their attitudes about personal control and issues related to choices they make about childbirth experiences from women who choose to deliver their babies outside of hospital.

Dr./Ms. ..... has agreed to help me by allowing me to ask you as his/her client, if you would be willing to participate in this study. Participation in this study is completely voluntary. Participation or non-participation in this study will in no way affect the medical or nursing care you receive. There would be no risk or discomfort to you due to your participation, and you would be free to withdraw from the study at any time.

Upon receipt of this letter, you will receive a telephone cal from myself, at which time I will further explain the study and discuss any concerns you may have. If you agree to participate in the project, you will receive in the mail, a consent form, data sheet and two questionnaires which will take about 30 minutes to complete. You will be asked to complete and return these to me within a two-week period. Information you provide will be kept in confidence, and you will not be identified by name at any time. The information will be used for research purposes only, and once the data is grouped and analyzed, the questionnaires will be destroyed.

While the benefits of this study will not be immediate for you during this pregnancy, it is hoped that the findings will contribute to providing future benefits to improve maternity services. Should you participate in this study, a report of the findings would be provided to you if you so desire.

Thank you in advance for your interest in participating in this project.

Yours sincerely,

Marg Thiessen, R.N., B.Sc.N.
M.N. Candidate

Appendix J

DATA SHEET

Choice of Site for Childbirth as Related to Selected Issues of Control

---

To the Participant: Please check the response which most represents you for each item below.

---

1. My ethnic origin is: British... French... German... Italian... Spanish... Chinese... Japanese... Native Indian... Eskimo... Metis... E. Indian... Other..... (please specify)

2. My age is: 20-22 ... 23-25 ... 26-29 ... 30-34 ... 35-40 ...

3. I have completed: Grade 8-10 ... Grade 12 ... 1-2 years post-secondary ... University graduate ... Post-graduate university ...

4. I am: Married... Single... Other...

5. My occupation is:.....

6. The occupation of my spouse or significant other is:.....

7. My family income is: up to $20,000 ... 20- 24,000 ... 25- 29,000 ... 30- 34,000 ... 35- 39,000 ... 40,000 + ...

8. I have attended pre-natal education classes: for this pregnancy.... a previous pregnancy.. never attended.....

9. My babies have been born:
   In hospital.....(if so, which ones?) All... 1st... 2nd... 3rd...
   At home.....(if so, which ones?) All... 1st... 2nd... 3rd...

10. I am currently ..... weeks pregnant.

11. My expected date of delivery is .....

12. This is my 1... 2... 3... 4... 5... 6... 7 or more... pregnancy.

13. I have ..... living children.

Note: If you wish to receive a summary of the results of this study please address the enclosed stamped post-card and return it with the data sheet, consent form, and two questionnaires.

Appendix K

Table K-1

Biographic Characteristics of Hospital and Alternate Groups

Variables	Hospital Group (1) (n=30)	Alternate Group (2) (n=30)	%(N=60)
Age			
20-25	3	2	8.3
26-34	25	22	78.3
35-40	2	6	13.3
Ethnic Origin			
British	14	14	46.7
Canadian	6	6	20.0
European	4	7	18.3
Eastern European	6	3	15.0
Education Achieved			
Gr.8-12	11	10	35.0
1-2 P.S.	9	11	33.3
UnivGrad	10	9	31.7
Family Income			
<$20000	0 (13%)	7 (23.3%)	11.7
20-29000	4	7	18.3
30-39000	9 (30%)	9 (30%)	30.0
$40,000+	16 (53.3%)	7 (23.3%)	38.0
Missing	1	0	1.7

Appendix K

Table K-2

Biographic Characteristics of Hospital and Alternate Groups

Prenatal Education Attendance-Previous Pregnancy			
Attended	19	20	65.0
Never	2	1	
Prenatal Education Attendance-Present Pregnancy			
Attended	16 (53%)	21 (70%)	61.7
Did not	14	9	38.3
Marital Status			
Married	30	24	90.0
Not Married		6	10.0
Occupation of Respondent			
Profess	10	4	23.3
Tech/Trad	11	11	35.0
Labour	2	1	5.0
Homemaker	7 (23.3%)	14 (46.7%)	35.0
Spouse's Occupation			
Profess	5	3	13.3
Tech/Trad	19	16	58.3
Labour	3	6	15.0
Homemaker	1	3	6.7
Missing	2	2	6.7

Appendix K

Table K-3

Mean Differences of Groups - Pregnancies and Living Children

	Mean	Standard Deviation
Number of Pregnancies		
Hospital Group	2.33	1.23
Alternate Group	2.73	1.20
Total population	2.53	1.22
Number of Living Children		
Hospital Group	1.13	1.04
Alternate Group	1.33	1.09

Appendix K

Table K-4

Birth Site Selected for Previous Childbirth

1. Women Selecting Hospital Site

	Births			
	1st	2nd	3rd	4th
Hospital Group	21	10	3	1
Alternate Group	15	6	1	1

2. Women Selecting Alternate Site

	Births			
	1st	2nd	3rd	4th
Hospital Group	0	0	0	0
Alternate Group	6	6	3	0

Appendix K

Table K-5

Descriptive Data on Scales: Alpha Reliability Coefficients

	Original Alpha Coefficient	Re-established Alpha Coefficient
MHLC Scale (Form A)		
Subscales		
Internal Scale 6 items	.767	.789
Powerful Others Scale 6 items 5 items	.67	.68 .81
Chance Scale 6 items	.75	.76
ATICC SCALE		
Intra Scale 10 items	.81	.81
Extra Scale 8 items	.81	.74
Total Scales		
MHLC Scale (17 items)		.87
ATICC Scale (18 items)	.94	.95

Appendix K

Table K-6

Pearson Product-Moment Correlation Matrix: Five Variables

	IHLC	CHLC	PHLC	INTRA	EXTRA
IHLC					
CHLC	.47				
PHLC	.52	.58			
INTRA	.49	.44	.57		
EXTRA	.45	.45	.61	.92	1.0

Appendix K

Table K-7

Correlation Matrix: Four Variables

	IHLC	CHLC	PHLC	ATTITUDE (ATICC)
IHLC	1.00	.46	.52	.47
CHLC	.46	1.00	.58	.45
PHLC	.52	.58	1.00	.60
ATTITUDE (ATICC)	.47	.45	.60	1.00

Appendix K

Table K-8

Mean Scores of Hospital and Alternate Groups on All Variables

Variable	N Cases	Mean	S.D.
Internal Health Locus of Control			
Hospital	30	16.60	4.30
Alternate	30	14.23	2.62
Chance Health Locus of Control			
Hospital	30	17.13	3.95
Alternate	30	13.90	4.25
Powerful Others Health Locus of Control			
Hospital	30	13.00	3.33
Alternate	30	9.76	2.71
Intrapersonal Attitude Scale Score			
Hospital	30	28.80	6.89
Alternate	30	14.50	3.75
Extrapersonal Attitude Scale Score			
Hospital	30	25.53	5.55
Alternate	30	10.50	2.58

Appendix K

Table K-9

Comparison of Two Groups on t-test

	Group	Mean	t-value	df	Level of Significance*
Subscale					
IHLC					
	Hosp	16.6	2.6	47.7	sig
	Alt	14.2			
CHLC					
	Hosp	17.1	3.0	57.7	sig
	Alt	13.9			
PHLC					
	Hosp	13.0	4.1	55.7	sig
	Alt	9.8			
Intra					
	Hosp	28.8	9.9	44.8	sig
	Alt	14.5			
Extra					
	Hosp	25.5	13.4	40.97	sig
	Alt	10.5			
Total Scales					
HLC					
	Hosp	46.7	4.0	58	sig
	Alt	37.9			
Attitude					
	Hosp	54.3	12.1	58	sig
	Alt	25.0			

*** Separate variance estimates were used as the F test on the homogeneity of variance was rejected (Pagano, 1981, p.335).

* Significant at alpha = .05 level

Appendix K

Table K-10

Group Differences on HLC and Attitude Measured by Independent t-test

Variable	Hospital Group	Alternate Group	F Value	2-tail Prob	Pooled Variance Estimate t-Value
	Mean	Mean			
HLC	46.7	37.9	1.51	0.270	4.01
	S.D.	S.D.			
	9.36	7.60			
	Mean	Mean			
ATTITUDE	54.33	25.00	3.71	0.001	12.12
	S.D.	S.D.			
	11.76	6.10			

df= N pairs-1=29

critical t @ .01=2.756

Appendix K

Table K-11

Comparison of Two Groups on Four Variables Using Hotelling T^2 Test

Variable	N Cases	Mean	S.D.
Internal Health			
Locus of Control			
Hospital	30	16.59	4.34
Alternate	30	14.23	2.62
Chance Health			
Locus of Control			
Hospital	30	17.13	3.95
Alternate	30	13.90	4.25
Powerful Others Health			
Locus of Control			
Hospital	30	13.00	3.33
Alternate	30	9.76	2.71
Attitude			
Hospital	30	54.33	11.76
Alternate	30	24.99	6.10

Appendix K

Table K-12

Classification Results of Grouped Cases

Groups	N Cases	Predicted Group Membership	
		Hospital	Alternate
Hospital	30	28 (93.3%)	2 (6.7%)
Alternate	30	1 (3.3%)	29 (96%)

Figure 1. Plot of Attitude with Health Locus of Control by Group.

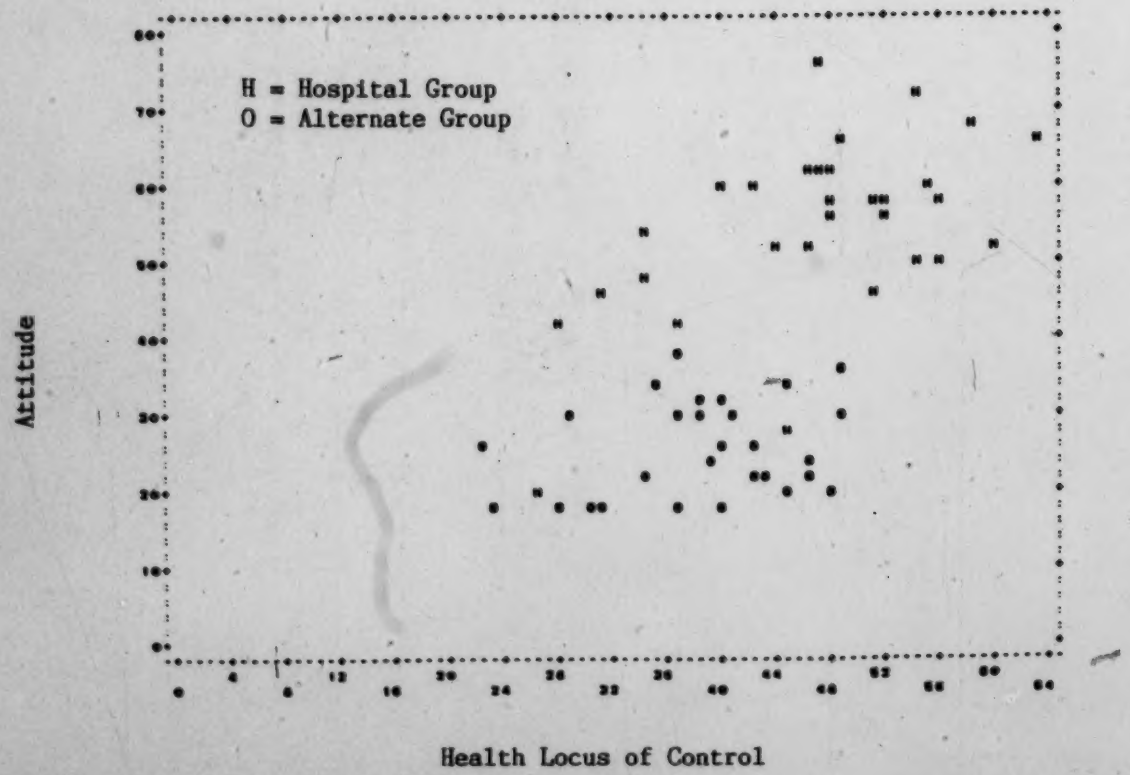

Figure 2. All-Groups Stacked Histogram Canonical Discriminant Function 1.

Group 1 = Hospital

Group 2 = Alternate